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## CASE REPORT

Brain Abscess & Pulmonary Embolism Unveiled a Family With Hereditary Hemorrhagic Telangiectasia (HHT) Syndrome

## CLINICAL SERIES

Transcatheter Arterial Embolization (TAE) in the Treatment of Upper Gastrointestinal Bleeding (UGIB)

## CLINICAL UPDATES

Bronchial Thermoplasty,  
A Novel Therapy for Severe  
Asthma





## المؤتمر العلمي السابع لأمراض الباطنة

The Seventh Conference of Internal Medicine

Success does not happen, Success is made

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## المقدمة

مهما كانت تحديات الحياة التي تواجهنا .. تذكر دائماً أن تنظر إلى قمة الجبل .. ولا تدع مشكلة ما أو أمراً ما مهما بدارك خطيراً أن يثبط من عزيمتك، ولا تدع شيئاً ما، مهما كان أن يصرفك عن القمة.

الإنجاز والنجاح يبدأ بحلم، ثم فكرة، ثم خطوات صغيرة وخجولة إلى الأمام، وهذا هو شأننا وحكايتنا مع مؤتمر الباطنة الذي تصدر نسخته السابعة هذا العام.

على مدارست سنوات سابقة حرصنا فيها دائماً على الاستثمارية والتميز، ففي كل عام كان لدينا الجديد الذي يميزنا عن الآخرين، وهذا نحن نقدم لكم اليوم الإصدار الأول لمجلة الباطنة الخاصة بمؤتمر الباطنة السابع، والتي نأمل من الله أن نحافظ على استمراريتها.

لقد نشأت هذه المجلة بجهد كوكبة من أطباء الباطنة وأساتذة الجامعات المميزين في قطاع غزة والضفة، واعتمدت بشكل كامل على أعمالهم المميزة من دراسات طبية وحالات مرضية، لثبتت للجميع أن طبينا الفلسطيني هو قيمة كبيرة وذو ثقة عالية لا مجال للتشكك فيها.

ومما يزيد من قيمة هذا الإنجاز هو خروجه للنور في ظل هذه الظروف الصعبة التي يعيشها المجتمع الطبي في قطاع غزة، لثبتت للجميع أن صناعة المجد - بعد مشيئة الله - لا تفسدها عثرات الحياة إن كان هناك قلب مؤمن بتوفيق الله وعقل يخطط مستقبل أفضل.

أتقدم بأسمى آيات الشكر والعرفان لكل من ساهم في إنجاز هذه المجلة الطبية، فهي كواليسها فريق كبير من الزملاء المحاضرين والمصممين والراجعين، لم يدخل أحد منهم أي جهد أو وقت ليخرج هذا العمل إلى النور.

د. علاء الدين المصري  
رئيس اللجنة العلمية للمؤتمر



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# كلمات رؤساء اللجان للمؤتمر السابع للأمراض الباطنة

**د. عمرو الأسطل**  
المنسق العام للمؤتمر



من رحم المعانة، ومن قلب الحصار، كان هناك من لديهم عزيمة الإصرار وروح العطاء، ليوقدوا شمعة الأمل، ويجددوا العهد.. اليوم وعلى رحاب المؤتمر السابع للأمراض الباطنية، لا يسعنا إلا أن نشكر الله تعالى وكل من ساهم في خروج هذا العمل المميز بنسخته السابعة كما وعدناكم، راجين من المولى عزوجل أن تكون قد أشعلنا ولو شمعة على طريق التقدم.. كلنا أمل أن تكون عند حسن ظنكم، وأن يتجدد لقاونا بكم العام القادم في المؤتمر الثامن بإذن الله..

**د. محمد درقوت**  
رئيس المؤتمر



يطل علينا مؤتمر الباطنية السابع بتميز وابداع جديد ليؤكد أن أطباءنا في مجمع ناصر الطبي وفي غيره قادرين على صنع النجاح، ومن هنا أخذ المؤتمر عنوانه: "النجاح لا يحدث، النجاح يصنع". إننا نعقد مؤتمرنا هذا العام وأنظارنا وجهودنا متطلعة لأن يكون المجمع مستشفىً تعليمياً، بعد أن قطعنا أشواطاً في هذا المجال شهد لها الجميع وتوجت بزيارات عمل للمسؤولين في المجلس الطبي الفلسطيني. إننا نأمل أن يكون لهذا المؤتمر بأبحاثه وتصنياته بصمتها في تحسين واقعنا الصحي، والله من وراء القصد.

**د. أحمد الروبي**  
رئيس اللجنة التحضيرية للمؤتمر



"ومن أحياها فكأنما أحيا الناس جميعا.." إنه لمن دواعي الشرف أن أترأس اللجنة التحضيرية لمؤتمر الباطنية السابع، وكلى أمل أن تُنجَز المهمة وأن تُؤْدَى الأمانة على أكمل وجه، فتؤتي ثماراً طيبة على مؤسساتنا الصحية ومجتمعنا الفلسطيني.. والشكراً واجب لكل من ساهم في إنجاح هذا العمل، من محاضرين ومنظمين ورعاة مؤسسات وأفراداً، أملاً أن يحقق هذا المؤتمر النجاح المأمول..

**د. علاء الدين المصري**  
رئيس اللجنة العلمية للمؤتمر



"وأن ليس للإنسان إلا ما سعى.." إرادتنا .. تشكل حياتنا، سواء فشلنا أو نجحنا، فنجاحنا أو فشلنا من صنعنا نحن، وليس من صنع أي شخص آخر، نحن القوة.. نحن من يستطيع إزالة كل العقبات من أمامنا .. فزنا أم خسرنا .. فالاختيار هو اختيارنا .. والمسؤولية هي مسؤوليتنا. كما عودناكم بالتميز والالتزام، تقدم لكم اللجنة العلمية لمؤتمر الباطنية السابع هذا العمل المتواضع في خطوة جديدة للأمام، ونسأل الله أن يجعل فيه الخير والفائدة للجميع..



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“

He who does not research, has nothing to teach..

”

# PART 1

## & GUIDELINES & CLINICAL UPDATES

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Updates in hospital medicine.

Bronchial thermoplasty, a novel therapy  
for severe asthma.

Non-Communicable Diseases (NCDs)  
& Disability Adjusted Life Years  
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# Updates in Hospital Medicine

Alaa Eldeen Almassry

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I conducted extensive literature review of the most relevant medical publications in late 2016 and early 2017 from which I choose the following updates.

## 1 Clinical Practice Guidelines From the AABB (American Association Of Blood Banks): Red Blood Cell Transfusion Thresholds and Storage.

JAMA.2016;316(19):2025-2035. doi:10.1001/jama.2016.9185

The objective of this guidelines is to provide recommendations for the target hemoglobin level for RBC transfusion among hospitalized adult patients who are hemodynamically stable and the length of time RBCs should be stored prior to transfusion.

### Evidence Review:

Reference librarians conducted a literature search for randomized clinical trials (RCTs) evaluating hemoglobin thresholds for RBC transfusion (1950-May 2016) and RBC storage duration (1948-May 2016) without language restrictions. The results were summarized using the Grading of Recommendations Assessment, Development and Evaluation method. For RBC transfusion thresholds, 31 RCTs included 12587 participants and compared restrictive thresholds (transfusion not indicated until the hemoglobin level is 7-8 g/dL) with liberal thresholds (transfusion not indicated until the hemoglobin level is 9-10 g/dL). For RBC storage duration, 13 RCTs included 5515 participants randomly allocated to receive fresher blood or standard-issue blood.

### Recommendation 1:

A restrictive RBC transfusion threshold in which the transfusion is not indicated until the hemoglobin level is 7 g/dL is recommended for hospitalized adult patients who are hemodynamically stable, including critically ill patients, rather than when the hemoglobin

level is 10 g/dL (strong recommendation, moderate quality evidence). A restrictive RBC transfusion threshold of 8 g/dL is recommended for patients undergoing orthopedic surgery, cardiac surgery, and those with preexisting cardiovascular disease (strong recommendation, moderate quality evidence). The restrictive transfusion threshold of 7 g/dL is likely comparable with 8 g/dL, but RCT evidence is not available for all patient categories. These recommendations do not apply to patients with acute coronary syndrome, severe thrombocytopenia (patients treated for hematological or oncological reasons who are at risk of bleeding), and chronic transfusion-dependent anemia (not recommended due to insufficient evidence).

### Recommendation 2:

patients, including neonates, should receive RBC units selected at any point within their licensed dating period (standard issue) rather than limiting patients to transfusion of only fresh (storage length: <10 days) RBC units (strong recommendation, moderate quality evidence). The reviewed RCTs demonstrated that fresher blood did not improve clinical outcomes.

## 2 ACG Guideline on Evaluation of Abnormal Liver Chemistries Recommends “New Normal” for Serum ALT Levels.

Am Journal of Gastroenterology, 20 December 2016; doi: 10.1038/ajg.2016.517

A new clinical guideline from the American College of Gastroenterology offers the first recommendations in over 10 years on the evaluation of abnormal liver chemistries. For the first time in a liver test guideline, the authors define a new normal healthy serum alanine aminotransferase (ALT) level for women and men



(up to 25 IU/L for women, up to 33 IU/L for men) and recommend that levels above this should be assessed by physicians.

This guideline provides a framework for physicians to approach the very common problem encountered of a patient whose liver chemistries are abnormal.

This decision was based on the emerging data over the past decade demonstrating that ALT levels above defined thresholds are associated with higher liver-related mortality rates across a broad range of populations worldwide.

With the broad range of ‘upper limit of normal’ levels for ALT that vary from institution to institution, clinicians may not think to evaluate an ALT level of 70 IU/L, as this may be within the normal level for the reporting laboratory – even though this level of elevation is associated with increased liver-related mortality.

This is particularly relevant as there remain large pools of individuals who have yet to be diagnosed with chronic hepatitis B and C, non-alcoholic fatty liver disease, advanced liver disease, as well as less-common conditions, all of whom will require evaluation.

The guideline also takes clinicians through a step-wise approach to the evaluation of elevated aminotransferase (ALT and AST), alkaline phosphatase, and bilirubin levels including appropriate historical questions, important physical examination findings, laboratory, radiological evaluation, and finally liver biopsy if required.

New Algorithms has been proposed to help clinicians proceed with evaluation of elevated aminotransferase levels. It allows a graded approach to those with elevated aminotransferase elevations by categorizing these elevations as minimal, mild, moderate and severe, as well as giving specific guidelines as to when immediate evaluation is required and when a more limited evaluation can be performed with subsequent evaluation, if liver chemistries fail to normalize.

In addition, the new guideline includes algorithms to evaluate abnormalities in alkaline phosphatase and bilirubin levels to help clinicians efficiently evaluate these abnormalities, including suggested serologic and radiologic evaluations as well as when liver biopsy should be considered.

### 3 Surviving Sepsis Campaign Guidelines 2017

Critical care medicine journal, March 2017, Vol.45, No. 3

These clinical practice guideline are a revision of the 2012 Surviving Sepsis Campaign (SSC) guideline for the management of severe sepsis and septic shock. The recommendations in this guideline are intended to provide guidance for the clinician caring for adult patients with sepsis or septic shock.

The scope of this guideline focused on early management of patients with sepsis or septic shock. The guideline panel was divided into five sections (hemodynamics, infection, adjunctive therapies, metabolic, and ventilation).

#### Summary of Recommendations:

- Time to antibiotics: within 60 minutes for patients with Sepsis (SOFA $\geq$ 2), septic shock patients which essentially implies anyone with qSOFA and/or organ dysfunction.
- Lactate measurement and targeting lactate reduction in those who have an elevated Lactate as a serial marker.
- Blood cultures before antibiotics (unless there is going to be significant delay).
- Early Empiric broad spectrum Antibiotic therapy for all sepsis patients (refer to local guidelines).
- Procalcitonin (PCT) in the Emergency Department (ED) finally gets look in. (From an ED perspective, patients who improve quickly after first dose of antibiotics and PCT normalizes – antibiotics could be potentially be stepped down ).
- Fluid Challenge for fluid resuscitation (bolus rather than maintenance method).
- What fluid? The usual crystalloids first, albumin next (No ‘Gel’ And No Special Colloids).
- Fluid Volume for resuscitation – up to 30ml/kg.
- What about Inotropes? – Norepinephrine – Vasopressin – Dobutamine OR Adrenaline in that order.
- No routine use Steroids unless specific other indication(s).



#### 4 The PLASMIC score for TTP

Lancet Of Hematology, March 1, 2017  
[http://dx.doi.org/10.1016/S2352-3026\(17\)30026-1](http://dx.doi.org/10.1016/S2352-3026(17)30026-1)

Thrombotic thrombocytopenic purpura (TTP) is a specific form of thrombotic microangiopathy syndrome defined by the association of microangiopathic hemolytic anemia and thrombocytopenia with organ dysfunction. The first clinical description of thrombotic thrombocytopenic purpura was made about 90 years ago. 70 years later, a severe deficiency in ADAMTS13 activity—a protease that cleaves the large von Willebrand factor multimer—was identified as a major pathophysiological process in this syndrome. Nowadays, diagnosis of thrombotic thrombocytopenic purpura relies on measurement of very low plasma ADAMTS 13 activity, classically less than 10% of normal, and treatment of this disorder is based on restoration of substantial ADAMTS13 activity.

In The Lancet Hematology, Pavan Bendapudi and colleagues describe development of a diagnostic score for thrombotic microangiopathies and thrombotic thrombocytopenic purpura.

The score, termed the PLASMIC score (Table 1) was based on clinical and biological data obtained at admission from patients. It is composed of seven elements:

- 1- Platelet count
- 2- Combined hemolysis variable
- 3- Absence of active neoplasia
- 4- Absence of an organ or stem-cell transplant
- 5- Mean corpuscular value
- 6- INR
- 7- Serum creatinine

Points	
Platelet count < 30*10 <sup>9</sup> per L	1
Hemolysis variable	1
No active cancer	1
No history of solid-organ or stem-cell transplant	1
MCV < 90 fL	1
INR < 1.5	1
Creatinine < 2 mg/dL	1

Table. 1

The total score ranges from 0 to 7 points. More than 80% of patients in the derivation cohort with a PLASMIC score of 6 or 7 had a severe ADAMTS13 deficiency, and those with confirmed thrombotic thrombocytopenic purpura had a median score of 7. Added to clinical expertise, use of the PLASMIC score allows a clear improvement in the prediction of severe protease deficiency.

This work by Bendapudi and colleagues is an important step forward in the early management of thrombotic thrombocytopenic purpura. At a time when there is no reliable and quick biological test for diagnosis of thrombotic thrombocytopenic purpura, a method such as the PLASMIC score allows early screening of patients who can benefit from plasma exchange or frozen fresh plasma administration. The score is useful for patients with clinical suspicion of thrombotic thrombocytopenic purpura and no neurological symptoms or elevation of cardiac troponin I, for whom use of emergency plasma therapy is recommended. The PLASMIC score applies to all forms of deficit in ADAMTS13, whether genetic or autoimmune.

Nevertheless, similar to any predictive diagnostic or prognostic score, the PLASMIC score must be used as parsimoniously as possible. It is a statistical method that promotes the collective in individual interest, and replacing clinical expertise by applying a statistical score is dangerous and leads to the risk of ignoring several particular situations. However, conversely, it can be useful in less serious and uncertain situations, for which the use of emergency plasma therapy is discussed.

#### References :

- 1- Clinical Practice Guidelines From the AABB Red Blood Cell Transfusion Thresholds and Storage. JAMA.2016;316(19):2025-2035. doi:10.1001/jama.2016.9185
- 2- ACG Clinical Guideline: Evaluation of Abnormal Liver Chemistry. 20 December 2016; doi: 10.1038/ajg.2016.517.
- 3- Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016.Critical Care Medical Journal March 2017 Volume 45 Number 3
- 4- Pavan K Bendapudi .Derivation and external validation of the PLASMIC score for rapid assessment of adults with thrombotic microangiopathies: a cohort study. Lancet hematolgy.



# Bronchial Thermoplasty

## A Novel Therapy for Severe Asthma

Walid Daoud

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### Bakground

Asthma affects more than 235 million people worldwide and more than 25 million people in the United States alone. Unfortunately, therapeutic options for patients with severe persistent asthma are limited. Adjunctive therapies targeting other mediators of the inflammatory pathway have yielded variable results. Some patients remain symptomatic despite the use of high-dose ICS and long-acting beta agonists (LABAs), leukotriene receptor antagonists (LTRAs) montelukast, and zafirlukast and Omalizumab (anti-IgE) monoclonal antibody.

New therapies in development for severe persistent or difficult-to-treat asthma have also focused on modulating the underlying inflammatory response as blockade of IL-5, IL-4 and IL-13; mepolizumab, dupilumab and Lebrikizumab, respectively. However, the response is variable and the inadequate response in these patients is due to the hypertrophy and hyperplasia (remodeling) of the airway smooth muscles (ASM), so an alternative therapy is needed.

Bronchial thermoplasty (BT) is a new modality for treating severe persistent asthma that prevents the chronic structural changes that occur in the ASM by delivering a controlled specific amount of thermal energy (radiofrequency ablation) to the airway wall through a dedicated catheter via fiberoptic bronchoscope.

The delivery of energy during bronchial thermoplasty decreases ASM mass. With less ASM, airways constrict less. BT also reduces the airway vascular bed and reduces airway hyperresponsiveness (AHR). BT disrupt actin-myosin interaction through denaturating of motor proteins, disrupting the ASM spasm cascade.

BT is effective in symptom control and reduces exacerbations as in severe persistent asthma there is a blunted anti-inflammatory effect of glucocorticoids to immunomodulate ASM. BT ablates the airway control of the ASM contractility leading to distal effects. BT decreases mucus gland hyperplasia, mucus production with a change in airway autonomic tone.

### Indications

Patients with severe persistent asthma 18 years and older, not well controlled with high dose inhaled ICS + LABA and pre-bronchodilator FEV1<60% predicted or more.

### Contraindications

Presence of implantable devices, sensitivity to lidocaine or atropine, patients previously treated with BT, active respiratory infection, coagulopathy and asthma exacerbation or changing dose of systemic corticosteroids for asthma (up or down) in the past 14 days.

### Procedure

BT is performed in 3 separate procedures, each 3 weeks apart. Alair bronchial thermoplasty system (Boston Scientific Corporation) USA is used. This system is approved by the FDA and consists of radiofrequency controller and single use catheter with expandable 4-electrodes basket. The procedure includes; prophylactic OCS initiated 3 days prior, day of and day after the procedure, local anesthesia, lidocaine, albuterol nebulization, moderate sedation.

BT catheter is introduced through flexible bronchoscope & radiofrequency energy (heat 65 C) is applied



to airways 10 seconds per activation, 4 activations for each sub-segment (60 activations/procedure). Each procedure is completed in 40- 60 min.

## Discussion

Geoffrey (2017) reported that to date, more than 6,800 patients in 33 countries have been treated with BT. The results of the PAS2 study suggest that patients experience long-term improvement in their asthma control. David et al (2017) evaluated BT in 20 patients by asthma control questionnaire-5 score, and revealed that BT is a safe procedure. In AIR 2 Pivot clinical study by Said and Zab (2015), were 850 bronchoscopies performed in patients with severe persistent asthma revealed that no device-related death, absence of clinical complications and stable FEV1. BT is recommended by BTS/ERS/ATS and GINA guidelines, 2017. Clinical outcome at one year: 79% improvement in asthma-related QOL, 32% reduction in asthma attack, 84% reduction in ER visits, 73% reduction in hospitalization, 66% less days lost from work, school, acceptable safety profile. HRCT scan at 1 year; no structural changes.

## Conclusion

BT is a novel non-pharmacological, device-based therapy for patients with severe persistent asthma. It is the only therapy that targets the ASM. It is completely safe and improve quality of life (QOL) and reduces exacerbations in severe persistent asthma despite its high cost.

### References :

1. American Academy of Allergy, Asthma & Immunology (2017). Bronchial thermoplasty provides long-term asthma control. J Allergy and Clinical Immunology (JACI). Published online
2. Balaji L and DKyle H (2015). Bronchial thermoplasty in asthma: current perspectives. J Asthma Allergy. 8; 39-49.
3. Chelle PW and Bradley EC (2016). Bronchial thermoplasty: a review of evidence. Ann Allergy Asthma Immunol, 116; 92-98.
4. David L, Joy S, Alvin I, David Fand Erica W (2017). Bronchial thermoplasty in severe asthma in Australia. Updates. 22-23.
5. Geoffrey C (2017). Bronchial thermoplasty helps reduce severe asthma attacks and ER visits. American Thoracic Society International Conference, adult asthma patients treated with bronchial thermoplasty.
6. Global Initiative for Asthma (GINA). GINA Global Strategy for Asthma Management and Prevention (2017).
7. Henry E. (2017). Bronchial thermoplasty update: taking another look at a breakthrough therapy. Boston Scientific Corporation;1-11
8. Said C and Zab C (2015). Bronchial thermoplasty. Updates. 1-18



# Non-Communicable Diseases (NCDs) & Disability Adjusted Life Years (DALYs) in Palestine

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The World Health Organization Global status report on Non-communicable diseases (NCD) 2010 showed that NCDs were the biggest cause of death in the world.

Each year, 17 million people die from a NCD before the age of 70 years; 87% of these "premature" deaths occur in low- and middle-income countries.

In 2008 more than 1-2 million people in the Arab world died from NCDs accounting for 60% for all deaths, 34% in persons younger than 60 years, the great increase in NCDs mortality rate between 2006-2015 was expected in Africa (27%) and Eastern Mediterranean Region (EMR) (25%), which include most Arab countries.

Like other countries an epidemiological transition has occurred in Palestine, the leading cause of death in Palestinian community is NCDs which account for 50% of all deaths, the incidence is higher in West Bank 57% vs 40% in Gaza Strip.

According to Palestinian Health Information Center 2015:

1. Cardiovascular disease: is still the first cause of illness, disability and death for Palestinian and caused 29.5% of mortality.
2. Cancer is the second most common cause of death causing 14.2% of fatality.
3. Cerebral vascular accidents are the third cause of death registered as the cause of 11.3%.
4. Diabetes the fourth most common cause of death causing 8.9% of fatalities.
5. Respiratory diseases are the fifth cause of death with a prevalence of 5.4%.
6. Perinatal mortality account for 3.3% of fertility.
7. Accident with different causes comprise the seventh cause of death 5%.
8. Renal failure is the eighth common cause 3.9%.

## **Disability-Adjusted Life Year (DALY) concept:**

DALYs was introduced in a 1990 as an indicator to measure a global and regional effects of diseases, injuries, and risk factors on population health.

Today the DALY is becoming an increasingly common term in the field of public health. It is now a key metric employed by the United Nations World Health Organization (WHO) and health impact assessment. It extends the concept of potential years of life lost due to premature death to include equivalent years of healthy life lost by virtue of being in states of poor health or disability - mortality and morbidity are combined into a single, common metric.

## **Conclusion:**

There is a relatively long time between exposure to a risk factor and development of Non-communicable diseases. Consequently, the most effective strategy for surveillance is to focus efforts on the major NCD risk factors that predict disease like overweight, obesity, hypertension, diabetes, smoking

“

Research is formalized curiosity..  
It is poking and prying with a purpose.”

Dr. Zora Neale Hurston

# PART 2

## CLINICAL & RESEARCHES SERIESSES

Transcatheter Arterial Embolization (TAE) in the treatment of Upper Gastrointestinal Bleeding (UGIB).

Text Neck, the evidence of an emerging global epidemic.

Management of urinary tract infection (UTI) in the Indonesian hospital based on culture and sensitivity; Retrospective study.

Clinical and laboratory predictors of positive CSF cytology in patients with suspicion of Acute meningitis: Case series.

Emergency carotid intervention for transient ischemic attack (TIA) prevention: Comparative study and new guidelines.



# المؤتمر العلمي السابع لأمراض الباطنة

Success does not happen, Success is made



# Transcatheter Arterial Embolization in the Treatment of UGIB

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## Introduction

Acute nonvariceal upper gastrointestinal (GI) bleeding remains a challenging presentation due to significant morbidity and mortality rates, and about half of all cases of upper GI bleeding are caused by gastric and duodenal ulcers. Although first-line endoscopy achieves bleeding control in most patients, if this does not work, the mortality rate can be 5% to 10% because of multiple comorbidities, advanced age, and high transfusion requirements. However, hospitalization and mortality due to severe upper gastrointestinal bleeding as a result of peptic ulcer are still high among the elderly. Surgery is also associated with high mortality, and therefore, selective transcatheter arterial embolization (TAE) is considered a safer alternative due to the avoidance of laparotomy, particularly in high-risk patients. In fact, in many institutions, TAE is now the first-line intervention for massive arterial bleeding from the upper GI tract that is resistant to endoscopic therapy.

Arterial embolization in the upper GI tract above the ligament of Treitz is generally considered to be very safe because of the rich collateral supply to the stomach and duodenum.

We present 5 cases of upper GIT bleeding treated successfully by arterial Embolization after failed endoscopy procedure.

## Method

From January 2015 to March 2017, five patients were referred to cardiac catheterization department with upper gastrointestinal bleeding.

One patient was transferred from pediatric surgery and diagnosis was traumatic liver injury, one case transferred from general surgery and diagnosis was large liver hemangioma and 3 patients were transferred from internal medical department from alshifa hospital. From the medical records, the following variables were recorded: demographic data, CT or endoscopic diagnoses, comorbidities, lowest hemoglobin levels, total transfusion requirements, postprocedure complications, and mortality rates.

## Results

Retrospective, case series study, total 5 cases (Male:1, female: 4), Median Age: 14- 76 years, diagnosis, malignant tumor 2 cases, hemangioma 1 case, late complication of surgery: one case, and traumatic liver injury one case.

## Case 1

A 72-year-old female patient with upper GI bleeding, she had history of pancreas CA, she transferred to Al-Najah Hospital because Wipple operation. But the operation was failed. After failed operation massive PE and Melina was developed Endoscopy was done and suggested that bleeding from 2nd segment of duodenum. The Pre-operative : HgB:6.8 g/dl despite 28 unit of blood and plasma transfusion. Urgent selective angiography was done and suggested cutoff of superior pancreatic duodenal artery and coil Embolization was done the patient was discharged after 2 days with good condition and HgB level was 10.5 g/dl.



After 3 weeks repeat GIT bleeding was developed and HgB level was 8.3 g/dl, repeat Urgent selective angiography was done Embolization of gastro duodenal artery by Polyvinyl alcohol particle and coil Embolization was done the patient was discharged after 3 days with good condition and HgB level was 9.7 g/dl.

### Case 2

A 40-year-old female patient with thalasemia major and right hepatic mass presents with massive peritoneal bleeding from liver. The Pre-operative HgB:5.7 gram/dl, INR:2.84 despite 4 unit blood and 3 unit FFP transfusion. Left hepatic artery from celiac trunk and Right hepatic artery origin from proximal SMA. Urgent selective angiography was done and suggested Bleeding from RHA branches a srounding the mass in the right loupe of the liver. Absorbable gelatin sponge infusion and 3 Coil embolization was done.

### Case 3

Female patient 82 years old with CHF and chronic AF and with history of Cholesystoectomy before 7 years, Presentation with recurrent Upper GIT Bleeding. The Pre-operative HgB:6.7 gram/dl, despite 6unit blood and 3 unit FFP transfusion Urgent selective angiography was done and suggested right hepatic artery pse-douanurysm. Coil Embolization was done and bleeding control was achieve. After 48 sudden detritions in vital sing was developed and cardiac arrest was developed.

### Case 4

A 14-year-old man, who had no remarkable past illness, was injured in a motorcycle-versus-vehicle crash and was transferred to our Emergency Department due to right upper abdominal pain. On arrival, his blood pressure was 110/70 mmHg, and heart rate was 96/min. Physical examination revealed right upper quadrant tenderness with muscular rigidity. Before the planned embolization procedure, the patient began experiencing abdominal pain nausea, and vomiting. Laboratory evaluation was notable for total bilirubin of 1. mg/dL, international normalized ratio of 1.5 U, partial thromboplastin time of Laboratory data

showed only mildly abnormal liver function tests and other biochemical studies were normal. A contrast-enhanced dynamic CT examination was performed with a multi-detector CT (Sensation 124, Phillips) The arterial and the portal venous phase images were obtained at a 35 and 90 s delay after contrast injection . The CT scan disclosed a grade 4 liver injury and a 9x10 cm intrahepatic hematoma arising from the right hepatic artery. Coil Embolization was done and bleeding control was achieve.

### Case 5

A 41 years old female patient with right upper quadrant pain and recurrent vomiting. The CT scan suggested very large liver hemangioma (12x11 cm) transferd form general surgery because of in-op arterial embolization was done bu using Absorbable gelatin sponge infusion and Coil embolization was done.

### Conclusion

The results of this study suggest that, after failure of therapeutic endoscopy for upper gastrointestinal bleeding, TAE should be the treatment of choice.TAE can also be used to effectively control bleeding after failed surgery or TAE. The safety and efficacy of TAE for the treatment of life-threatening, acute, nonvariceal upper GI bleeding is now widely accepted and is considered the gold stan dard for endoscopy-refractory patients.

### References:

1. Bjorkman DJ, Zaman A, Fennerty MB, et al. Urgent vs. elective endoscopy for acute non-variceal upper GI-bleeding: an effectiveness study. Gastrointest Endosc 2004; 60:1- 8.
2. Higham J, Kang JY, Majeed A. Recent trends in admissions and mortality due to peptic ulcer in England increasing frequency of haemorrhage among older subjects. Gut 2002; 50:460-464.
3. Andersen IB, Bonnevie O, Jorgensen T, et al. Time trends for peptic ulcer disease in Denmark, 1981-1993: analysis of hospitalization register and mortality data. Scand J Gastroenterol 1998; 33:260- 266.
4. Walt R, Katschinski B, Logan R, et al. Rising frequency of ulcer perforation in elderly people in the United Kingdom. Lancet 1986; 1:489-492.



# Text Neck

## The Evidence of an Emerging Global Epidemic

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### Background

Of the 6 billion people living in our world, over 4 billion have mobile phones with billion mobiles sold in 2008 alone (CNBC, 2009). The age that a child is getting a mobile phone is getting younger and younger due to affordable prices and parents wanting to stay in touch for security purposes. The Tech-age is clearly upon us all, young and old, near and far. We are always on the run, and always connected. Living in this digital era has the benefits & conveniences offered by contemporary electronic technology (mobiles& handheld devices). We are now able to communicate with & engage the whole world at our fingertips. However, with all advantages gained from mobile technology comes the risk of serious and permanent health problems especially text neck which is a new medical term that was first coined in 2003 by Dr. Dean Fishman, a technology-induced injuries consultant from America. This condition has other synonyms like Text Neck Syndrome, Mobile neck, Anterior Head Syndrome, Hunch Neck; iPhone Neck, Tech Neck. It is a serious threat to our health and the entire society which must be acknowledged, and precautions taken.

### Definition of Text Neck

It is an overuse syndrome involving the head, neck and shoulders, resulting from excessive spinal strain due to prolonged forward and downward position looking at any hand held device (mobile,video-game unit, computer or mp3 player), leading to headaches, neck, shoulder and arm pain, breathing compromise, and much more.

### Objective

To shed light on this new clinical diagnosis that is rapidly becoming a global epidemic affecting millions of people of all ages using various hand-held devices.

### Methodology

A literature review was conducted to ascertain the prevalence of Text Neck based on latest research evidence.

### Results

While 75% of world's population spends hours daily hunched over their handheld devices with their heads flexed forward pressing their spine, ligaments, tendons, and neuro-muscular structures, they become at risk of developing Text Neck and if left untreated, it can result to serious permanent damage including flattening of cervical spine, spinal degeneration & arthritis, disc compression & herniation leading to nerve & muscle damage, loss of lung capacity plus gastrointestinal problems.

Mobile texting has become the dominant form of communication. Data released by Census Bureau in December 15, 2009, that Americans sent 110 billion SMS text messages in December 2008 compared to 48 billion SMS messages at the same month in 2007. Other studies by Kaiser Family Foundation released (2012) showed that young people within the age of 8 - 18 years spend 7 hours and 38 minutes with electronic media in an average day (53 hours/week).

A study at the University of Queensland in Australia has found that text messaging is the most addictive



digital service on mobile or internet, and is equivalent in addictiveness to cigarette smoking.

Another survey by Neustar, an international telecommunications company revealed that more text messages are sent per phone than phone calls. The average text messages sent/month is 357 compared to 204 mobile calls made. About 72% of wireless users in America (203 millions) have paid for SMS packages.

Google's Vice President of Engineering and Mobile Applications, Vic Gundotra (CNBC, Dec. 3, 2009) stated that "We are seeing a very fundamental and increasing shift towards mobile devices use in accessing the Internet instead of PC, particularly among the young in Asian countries. This was confirmed by AT&T study which found that nearly seven in 10 Americans (69%) are interested in watching TV programming live on a handheld mobile device. ([www.marketingcharts.com](http://www.marketingcharts.com))

All published research data showed that text neck is affecting millions of all ages and from all walks of life world-wide and its prevalence is increasing as we increase our dependency on hand held devices.

According to a 2011 study, over 90% of young adults used mobile phones daily at leisure and 42% of all young adults used mobile phones daily at work. It also found that 65% of young women (30 years old) had pretty often or more frequently experienced neck pain and numbness, and 34.5% of young men had the same symptoms.

In the general population, the lifetime prevalence of neck pain has been reported to be greater than 70% and the point prevalence is reported to be between 12 and 34%. (Cagnie et al, 2007). He also reported the 12-month prevalence of neck pain among office workers to be 45.5%. while Cote et al(20019) in a more recent study, the one year prevalence of neck pain in office workers was estimated to range from 18% to 63%.

The one year prevalence of neck pain among adults ranges from 12% to 71.5% (Hogg et al., 2008).

A survey study on Spanish population to ascertain the true prevalence of neck pain revealed that Neck pain has an overall prevalence of 19.5% but that was more frequent in female (24.5 of total females) and was associated with depression and worse self-reported health status.

## Effects of Text Neck

Research on the mechanism of Text Neck revealed that for every inch (15 degrees) of forward head posture, it can increase the weight of the head (it is normally 10 pounds) on the spine by an additional 10 pounds. At 30 degrees down, the pressure is 40 pounds and at 60 degrees down (The most common angle we view our devices) there is 60 pounds of added pressure to our spine. Eventually the spine changes from its natural 'Shape to a more straightened or even reversely-curved and it can cause major problems such as herniated disks, bulging disks, and early arthritis.

Another study found that headache sufferers had a significantly forward head posture, decreased muscle strength, and less muscle endurance than non-headache subjects. Those with reverse cervical curves also reported the greatest pain (Watson, Cephalgia 1993).

Text Neck can affect Respiration & Gastrointestinal Tract: a study on chronic neck pain sufferers demonstrated a strong association between an increased forward head posture (FHP) and decreased respiratory muscle strength in neck patients (Cephalgia,2009). It also showed that with forward head posture the neck muscles attached to the 1st, 2nd ribs do not contract as well thereby limiting the amount of oxygen inspired. This has been shown in medical research to be a decrease of vital lung capacity of up to 30%. FHP was also found to affect gastrointestinal system; particularly the large intestine leading to loss of good bowel peristaltic function and constipation.

## Conclusion & Recommendation

Text Neck is a real and a high prevalent but overlooked diagnosis medical condition and therefore should always be considered when dealing with chronic neck pain. Modifying body posture combined with early diagnosis can greatly accelerate recovery, reduce disability. Minimize cost of treatment among mobile and computer users especially at a young age.

Mass information campaigns should be initiated through media, TV, Radio, schools, KG's and in communities to inform the public about its seriousness and the dangers of long-term forward head posture.



Retrospective study

# Management of Urinary Tract Infection

in the Indonesian Hospital based on culture and sensitivity

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## Introduction and literature review

Urinary tract infection (UTI) is the presence of a pure growth of  $>10^5$  organisms per ml of fresh mid-stream urine (MSU). It may be lower UTI: urethritis, cystitis, prostatitis or upper UTI pyelonephritis. About 150 million patient develop UTI per year and it considered the second most common type of infection in the body, accounting for about 8.1 million visits to health care providers each year. Women are especially prone to UTIs due to anatomical reasons including short urethra and urethral opening is close to the sources of bacteria from the anus and vagina. About 20 percent of young women with a first UTI will have a recurrent infection, with each UTI, the risk for recurrent UTIs increases. Pregnant women are at high risk to UTI than other women, about 4 to 5 percent of pregnant women develop a UTI. Risk factors for UTI includes female anatomy, diabetes, obesity, and family history. Sexual activity is the cause of 75–90% of bladder infections among young women, the risk of infection is related to the increased frequency of sex. Urinary catheterization increases the risk for UTI three to six percent per day and prophylactic antibiotics are not effective in decreasing symptomatic infections. Other risk factors include being uncircumcised, and having a large prostate. Complicating factors include predisposing anatomic, functional, or metabolic abnormalities. Spinal cord injury increases the risk for UTI due to chronic use of catheter, and voiding dysfunction. The most common cause is bacteria include *E. coli* is the cause of 80–85% of community-acquired urinary tract infection.

Healthcare-associated UTI involve a much broader

range of pathogens including: *E. coli*, *Klebsiella*, *Pseudomonas*, the fungal pathogen *Candida albicans*, and *Enterococcus*. Rarely they may be due to viral or fungal infections. The diagnosis is based on signs and symptoms but in complicated forms urine analysis looking for nitrates and white blood cells is done. Other test include urine microscopy for red blood cells and bacteria. The mainstay in treatment is administration of antibiotics (AB) based on culture and sensitivity for short term of non-complicated forms. For complicated forms of UTI treatment is more aggressive and requires addressing antibiotic resistance. The most common used antibiotics in non-complicated form is Trimethoprim – Sulfamethoxazole in addition to flouroquinolones and fosfomycin.

## Aim

Determine the bacteria that cause UTI and treat it based on culture and sensitivity test. Providing data for empiric therapy for UTI in Gaza Strip based on scientific information.

## Methodology

The study conducted in the Indonesian hospital in Gaza –Strip designed prospective study. All patients aged between 13 -80 years diagnosed with UTI based on signs and symptoms in addition to urine analysis were included in this study. In this retrospective survey 178 culture and sensitivity were reviewed. The results were obtained from the Indonesian hospital Lab. The study continued for eight months he total number will be 150 patient. The data collected tabulated and analyzed manually.



## Results

In this retrospective survey 178 culture and sensitivity (C&S) were reviewed, the results were as follow:

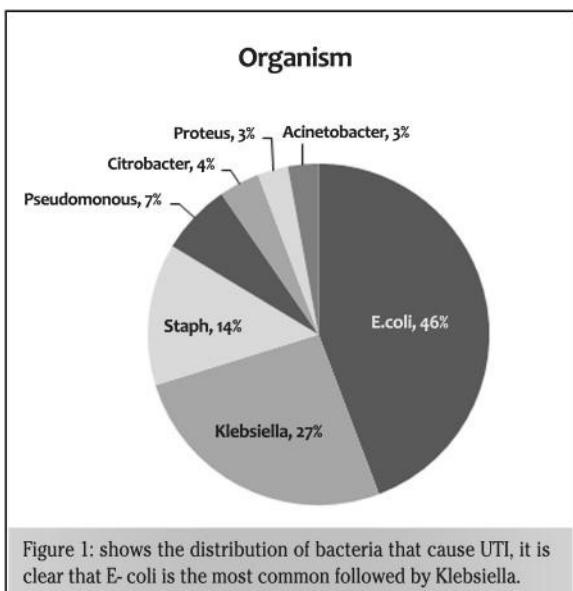


Figure 1: shows the distribution of bacteria that cause UTI, it is clear that E. coli is the most common followed by Klebsiella.

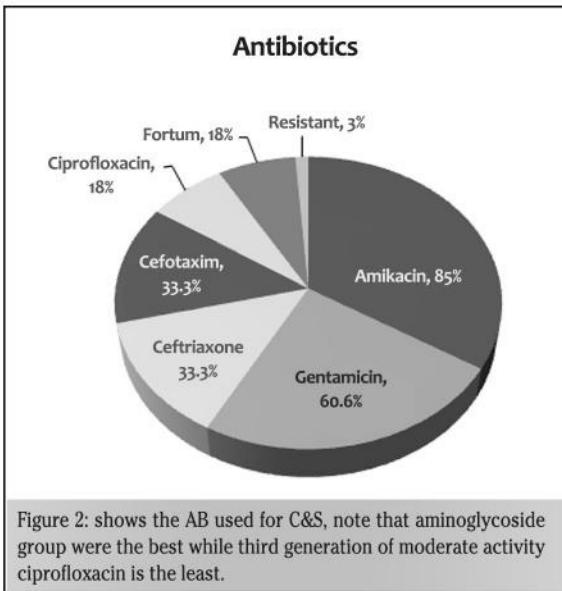


Figure 2: shows the AB used for C&S, note that aminoglycoside group were the best while third generation of moderate activity ciprofloxacin is the least.

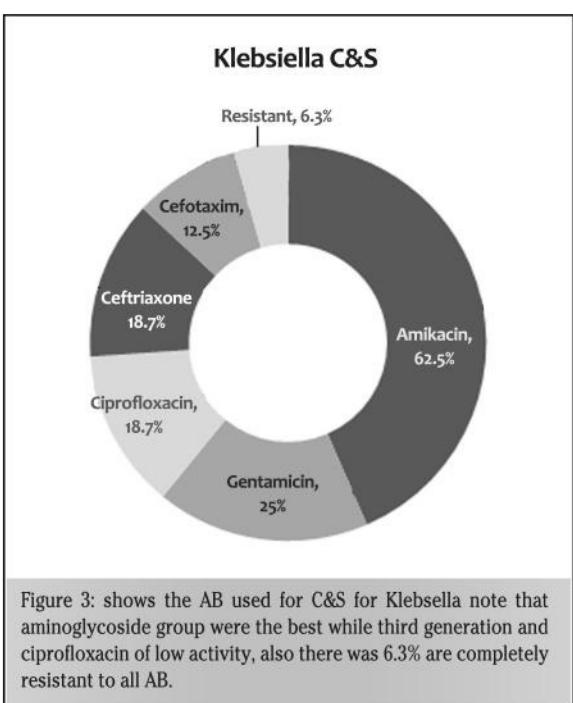


Figure 3: shows the AB used for C&S for Klebsiella note that aminoglycoside group were the best while third generation and ciprofloxacin of low activity, also there was 6.3% are completely resistant to all AB.

## Discussion

Based on the results obtained from this study the most common organism was E.Coli 46% followed by Klebsiella 27%, Staph 14% and the remaining was 13% for various organisms. Our results are similar to other world countries which reveal that the most common cause of UTI is E- coli and Klebsiella, but the difference in our country is that quinolones and third generation cephalosporines are the most effective choice for treatment.

The bacterial culture and sensitivity showed complete resistance to penicillin while the most sensitive drug was amikacin 60% of cultures followed by gentamicin 45%. Quinolones, second and third generation of cephalosporines are of moderate value nearly 30% sensitivity in these family. This may be due to the emergence of resistant strains to these drugs or misuse of these AB. There were strains of Klebsiella, pseudomonas and E-coli that are resistant to all AB used.

## Discussion

Based on this study the most common organism was E-Coli and the most sensitive group is aminoglycosides. Also the emergence of bacterial resistance to antibiotic is a major health problem so we recommend strict guidelines for prescribing antibiotics and conduction large scale studies for UTI to determine the type of bacterial and the best AB based on culture and sensitivity overall Gaza strip.

### References:

1. Moray longmore, Ian Wilkinson, Tomturmezei, Cheek Ay Cheung oxford hand book of clinical medicine sventh edition 2014.
2. Schappert SM, Rechtsteiner EA. Ambulatory medical care utilization estimates for 2006. National health statistics reports; no 8. Hyattsville, MD: National Center for Health Statistics; 2008.
3. Woodford, HJ; George, J (February 2011). "Diagnosis and management of urinary infections in older people". Clinical Medicine (London) 11 (1): 80–83.
4. Nicolle LE (2008). "Uncomplicated urinary tract infection in adults including uncomplicated pyelonephritis". Urol Clin North Am 35 (1): 1–12.



# Case Series Clinical & Laboratory Predictors of Positive CSF Cytology in Patients With Suspicion of Acute Meningitis

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## Introduction

Meningitis is an inflammatory disease of the leptomeninges, the tissues surrounding the brain and spinal cord, and is defined by an abnormal number of white blood cells in the cerebrospinal fluid (CSF).

Approximately 1.2 million cases of bacterial meningitis occur annually worldwide. Meningitis is among the ten most common infectious causes of death and is responsible for approximately 135,000 deaths throughout the world each year. Neurologic sequelae are common among survivors.

## Aim

To evaluate the clinical and laboratory predictors of positive CSF cytology in patients with suspicion of Acute meningitis at the internal medicine department, Nasser hospital, Gaza Strip.

## Method

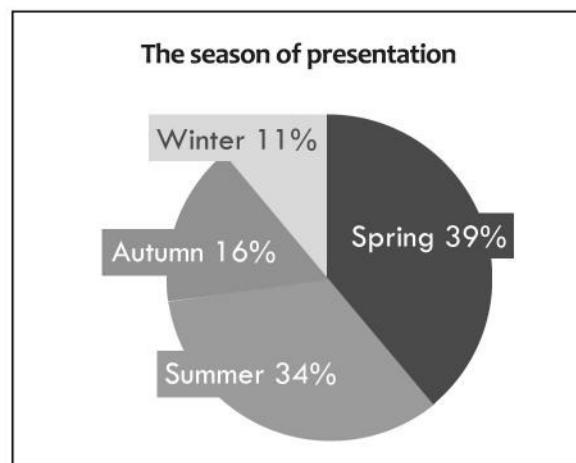
- Case series study was conducted retrospectively and randomly from meningitis patients who were admitted to the internal medicine department in the last three consecutive year (2014,2015,2016) .
- Data were collected from the medical records using a data collection sheet including Clinical and laboratory features.
- Data were analyzed using SPSS.

## Results

Of the 100 sampled records, 67 (67%) patients were

male and 33 (33%) were female, the most common age group of cases was <20 year by 48% followed by age group of 20-29 by 36%, but the least common age group was 40-49 by 3%.

According to the season of presentation spring was 39% then summer 34% then autumn 16% and winter 11%.



## Clinical presentation:

Firstly, About third-fourths of cases (n=76) presented with fever between 38-40, 18 % was afebrile, 6% of cases with fever more than 40.

According to symptoms of presentation , the most common presentation was headache and vomiting by 39% then vomiting and neck rigidity by 34% , the least common presentation was headache and confusion by 1% .





The most common single presentation mentioned by patients as all was headache by 90% whereas the least was confusion by 9%.

According to signs of meningitis, Of the 100 patients, 31 (31%) patients were Kerning positive , 26 (26%) were Brudinski positive 1(1%) presented with petechia ,but All the cases were not mentioned if there is papilledema or not.



### Laboratory predictors:

CSF analysis was done for all cases and the results were as followed:

- Firstly, total WBC count, 93% was <4000, 5% was between 4000-10000, 2% was >10000 .
- Secondly, neutrophiles count, 87% was <1500, 11% was between 1500-7500, 2% was >7500 .
- Then, platelet count as followed, 9% was <150000, 84% between 150000-450000, 7% was >450,000, then Only 4 cases were documented with hyponatremia.

Total WBC count	
<4000	93%
4000-10000	5%
>10000	2%

Neutrophils count	
<1500	87%
1500-7500	11%
>7500	2%

Finally ,Regarding Gram stain and CSF culture , gram stain was positive for 45% of patients ,negative for 50% and not documented for 5% of patients .CSF culture was positive for 2% of patients ,negative for 93% and not documented for 5% of patients.

Gram stain		
+ve	-ve	Not doc.
45%	50%	5%

CSF culture		
+ve	-ve	Not doc.
2%	93%	5%

### Interpretation

Patients with meningitis are usually quite ill and often present soon after symptom onset, the most common presentation is triad of fever, headache and vomiting, meningeal signs were positive in less than third of cases.

Every patient with suspected meningitis should have CSF obtained unless a lumbar puncture (LP) is contraindicated, The usual CSF findings in patients with bacterial meningitis are a white blood cell count of 1000 to 4000/microL with a percentage of neutrophils usually greater than 80 percent, protein of 100 to 500 mg/dL, and glucose <40 mg/dL .

When clinical findings strongly suggest meningitis, CSF analysis including Gram stain and culture will help differentiate between bacterial and viral infection if the Gram stain and/or culture is positive.

### Conclusion

- 1) Most cases of acute meningitis presented in summer and spring seasons (>73% of cases). So, high index of suspicion and low threshold for lumbar puncture is needed in these seasons in any patient presented with fever.
- 2) Absence of neck rigidity doesn't exclude acute meningitis since 54% of cases have no neck rigidity.
- 3) Meningeal signs (Kernig's and Brudenski's) are absent in more than 50% of patients with acute meningitis. Therefore, these signs in adults can't be reliable.
- 4) More than 93% of cases with acute meningitis have total WBCs less than 4000. So, any patient presented with febrile illness associated with WBCs less than 4000 has high probability of positive CSF cytology.
- 4) Gram stain is informative in half of patients and can guide clinicians about antibiotic therapy according to its results.



# Emergency Carotid Intervention For TIA Prevention

## Comparative Study & New Guidelines

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3. Vascular surgery specialist, European Gaza Hospital.

4. Anesthesiologist, Al-Quds Hospital.

### Introduction

Carotid endarterectomy (CEA) is an evidence-based treatment for the prevention of carotid-induced stroke. Multiple international RCTs were performed over many years to compare the outcome of Medical treatment alone versus CEA over many years and the results revealed the superiority of CEA in preventing recurrence of TIA.

CEA also is regarded as more effective and safer than Carotid artery stenting in management of symptomatic significant carotid stenosis as demonstrated by multiple RCTs, [class I; level of evidence A].

The London 2012 National Guidelines for Stroke recommend that carotid intervention for recently symptomatic severe carotid stenosis should be regarded as an emergency procedure in patients who are neurologically stable, and should ideally be performed within 48 h of a transient ischemic attack or minor stroke and definitely within 1 week, as the benefits of carotid surgery decrease rapidly after this.

The above mentioned guideline in accompany with other recent international guidelines were applied at our practice and the results were recorded and followed-up for 3 years.

### Aim

To address the best surgical outcomes of early carotid intervention in prevention of TIA recurrence in comparison with the traditional delayed intervention.

### Method

- 53 cases underwent carotid surgery at 2 different centers (Al-quds Hospital & European Gaza Hospital ).
- 7 patients of the total number of cases underwent surgical repair of their carotid lesions 48 hrs – 1 wk after their initial presentation with TIA, 3 cases operated emergently after minor stroke occurrence.
- 30 patients underwent classical CEA, 27 of them operated using patches (Synthetic & Venous).
- 15 patients underwent CEA by eversion technique.
- 8 underwent surgeries for repair of acute angulation at different locations.
- Anesthesia Techniques: 12 patients had their surgeries under Local anesthesia, 1 converted to GA and the rest were performed under GA.
- Male: Female ratio was 1.3:1

### Results

30 days follow up of all operated patients revealed no difference in perioperative complications rate and TIA recurrence between the 2 study groups.

Long term follow up of all operated patients revealed improved motor and speech functions with favorable outcome in patients operated emergently.

Immediate Post-op complications:

3 patients had post-operative TIA resolved without any neurological deficit.

1 case had experienced expanding hematoma that required immediate exploration & hemodynamic control.



6 months - 3 years follow up of operated patients using Duplex US revealed well-functioning repairs and absence of TIA's.

### Conclusion

Our challenges for the future will include Management of the 'urgent carotid' lesions and to modify risk factor for proper optimization of post-operative neurological status.

We are looking to implement multidisciplinary team work guidelines in cooperation with medical and radiology departments across Gaza strip to facilitate decision making in cases presented with TIA and proved carotid lesions in need for urgent surgical intervention.

## PART 3

# CASE REPORTS

Uncommon cardiac cause of recurrent ascites, liver cirrhosis, and chronic AF rhythm.

Brain abscess & Pulmonary Embolism Unveiled a Family With Hereditary Hemorrhagic Telangiectasia (HHT) Syndrome.

A case of Acute Disseminated Encephalomyelitis (ADEM) in a young patient with history of Addison's disease and Guillain–Barré syndrome (GBS).

Cavitory pulmonary TB with fungal coinfection: Case report.

Giant hydatid cyst of the lung.

Difuse Alveolar Hemorrhage (DAH) as a complication of SLE.

A case of Marfan syndrome with multiple cardiac manifestations.

Catastrophic Antiphospholipid Antibody Syndrome (CAPS): Case report.

A Case of Intracranial Hemorrhage complicated with Venous Thromboembolism (VTE).

Thyroid cyst as potential cause for intractable Hiccup.

Challenging cases in pulmonary medicine.



المؤتمر العلمي السابع لأمراض الباطنة  
Success does not happen, Success is made



# Uncommon Cardiac Cause of Recurrent Ascites, Liver Cirrhosis, & Chronic AF Rhythm

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## Background

The pericardium is a fibrous sac that surrounds the heart. It consists of two layers: the visceral and parietal pericardium. The visceral pericardium is composed of a single layer of cells adherent to the epicardium, while the parietal layer is a  $< 2$  mm fibrous membrane. The two layers are separated by a potential space, normally contain  $< 40$  mL of serous fluid.

The pericardium enhances mechanical interactions of cardiac chambers and limits acute cardiac dilatation. In response to long-standing stress, the pericardium dilates, shifting the pericardial pressure-volume relation substantially to the right. This allows a slowly accumulating pericardial effusion to become quite large without compressing the cardiac chambers and for left ventricular remodeling to occur without pericardial constriction.

Constrictive Pericarditis is a rare underlying pathology of congestive heart failure. Diagnostic challenges are usually present, these include clinical and hemodynamic resemblance of restrictive cardiomyopathy. Here I present a case with long standing history of refractory congestive heart failure that was recently diagnosed with constrictive pericarditis, having the typical hemodynamic pattern, and improved after pericardectomy.

## Case presentation and intervention

A 39 years old lady, not known to have any chronic illnesses before, had a long history of recurrent admission with ascites, lower limbs edema, and heart failure symptoms.

She was diagnosed with liver cirrhosis by imaging and clinical features (Fig.1), however, all investigations failed to prove a specific primary hepatic pathology. A previous echocardiography raised a possibility of restrictive cardiomyopathy.



Figure 1: CT Abdomen showing a picture of liver cirrhosis and significant ascites.

When patient presented to me, she was in congestive heart failure status with significant ascites, lower limbs edema and distended neck veins. Her ECG showed atrial fibrillation rhythm with fast heart rate, while her echocardiography revealed markedly dilated atria, relatively small ventricles size (Fig.2) with a restrictive filling pattern, moderately impaired LV systolic function, and mild to moderate mitral and tricuspid regurgitation.

A revision of her old chest X-rays revealed some calcification around the heart shadow which was not noticed before (Fig.3). Chest CT scan was then arranged and showed a thickened and heavily calcified pericardium (Fig.4), which raised the possibility of constrictive pericarditis as the cause of her condition. The patient denied any history of pulmonary TB symptoms, chest radiation, or previous surgery.



Figure 2:  
Echocardiography (apical view) showing dilated both atria with a relatively small ventricles (restrictive pattern).



Figure 3:  
Chest X-ray with evidence of scattered calcification around heart shadow.



Figure 4:  
CT chest showing significant thickening and calcification of pericardium.

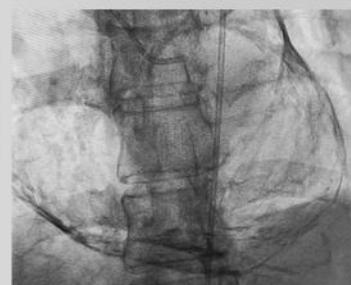


Figure 5:  
A view of the cardiac cath without contrast showing significant calcification surrounding the heart shadow.



Figure 6:  
Intracardiac LV hemodynamic pressure tracing giving the typical "dip & plateau" or "square root" sign.



Figure 7:  
Intra-OP picture of a heavily thickened & calcified pericardium resection (pericardectomy).

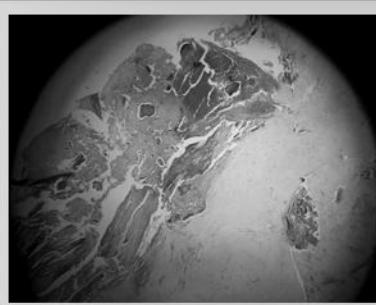


Figure 8:  
Histopathologic study of the pericardium showing non-specific inflammation, dense fibrosis & calcification with no granuloma.

Cardiac catheterization (both left and right) was done to assess the hemodynamic tracing pattern as well as the coronary vessels prior to any surgical intervention. During cardiac catheterization, there was a clear evidence of heavy calcification surrounding the heart (Fig.5) with normal coronaries. The typical "dip and plateau" or "square root" pattern of constrictive pericarditis was shown in both ventricles hemodynamic tracing (Fg.6).

The patient was referred to cardiac surgeon for surgical pericardectomy, which was done within two weeks after explaining the risks and benefits to the patient. During surgery around 80% of the thickened and heavily calcified pericardium was resected (Fig.7), and a sample was sent for histopathology which, in turn, described a chronic inflammatory process with dense fibrosis and calcification and no signs of specific pathology or granuloma (Fig.8).

four weeks later, the patient was reassessed, she had remarkable improvement with no more ascites, less

limbs edema, and reduced diuretics dose she needed. According to her, she started to have a better quality of life than she used to have along the past 3 years.

## Discussion

Putting this pathology in mind, though rare, will make early diagnosis and proper management possible. Simply, clinician needs to ask for proper imaging (CXR, Chest CT) in patients who have refractory congestive (especially right) heart failure, AF rhythm and restrictive cardiomyopathy features. This can be enough to strongly suspect the diagnosis, then confirmation comes through invasive hemodynamic assessment of the ventricles, and later by histopathology assessment



after surgery, like in our case. Other comorbidities can associate the clinical scenario, however in our case, beside the negative investigations that did not prove any other hepatic or cardiovascular pathology that was not explained by her diagnosis, her marked clinical improvement after pericardectomy gives us a very good reason to think of constrictive pericarditis as the main single pathology. Further investigations to rule out specific pathology such as tuberculous pericarditis were reasonable in spite of absence of relevant history. However, histopathologic assessment of the resected pericardium failed to prove any specific pathology like granulomatous process, rather, a chronic inflammation, fibrosis, and dense calcification were noticed.

### Conclusion

Constrictive pericarditis is a reported cause of refractory left and right heart failure, including recurrent ascites and cardiac liver cirrhosis, all of which can improve markedly after surgical pericardectomy. Putting this pathology in mind will make it possible to suspect and then confirm the diagnosis of this rare "curable" disease.

### References:

- 1- Maisch B, Seferovic PM, Ristic AD, Erbel R, Rienmuller R, Adler Y, Tomkowski WZ, Thiene G, Yacoub MH, for the Task Force on the Diagnosis and Management of Pericardial Diseases of the European Society of Cardiology. Guidelines on the diagnosis and management of pericardial diseases: executive summary. Eur Heart J. 2004; 25: 587-610.
- 2- Zayas R, Anguita M, Torres F, Gimenez D, Bergillos F, Ruiz M, Ciudad M, Gallardo A, Valles F. Incidence of specific etiology and role of methods for specific etiologic diagnosis of primary acute pericarditis. Am J Cardiol. 1995;75: 378-382.
- 3- Bertog SC, Thambidorai SK, Parakh K, Schoenhagen P, Ozduhan V, Houghtaling PL, Lytle BW, Blackstone EH, Lauer MS, Klein AL. Constrictive pericarditis: etiology and cause-specific survival after pericardectomy. J Am Coll Cardiol. 2004; 2004: 1445-1452.
- 4- Ling LH, Oh JK, Schaff HV, Danielson GK, Mahoney DW, Seward JB, Tajik AJ. Constrictive pericarditis in the modern era: evolving clinical spectrum and impact on outcome after pericardectomy. Circulation. 1999; 100: 1380-1386.
- 5- Ling LH, Oh JK, Breen JF, Schaff HV, Danielson GK, Mahoney DW, Seward JB, Tajik AJ. Calcific constrictive pericarditis: is it still with us? Ann Intern Med.2000; 132: 444-450.



# Brain Abscess & Pulmonary Embolism Unveiled a Family With Hereditary Hemorrhagic Telangiectasia (HHT)

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## Background

Hereditary Hemorrhagic Telangiectasia (HHT), also called as Rendu–Osler–Weber syndrome, is a rare autosomal dominant hereditary disease with a prevalence rate suggested to be 1 in 5000 -10000. Although this disease has been reported in all races, it is rare in Asian populations.

Mutations in two genes have been shown to be associated with HHT, including genes encoding Endoglin (ENG) and Activin A receptor type II-like 1 (ACVRL1). Both gene products related to the function of transforming growth factor-related angiogenesis.

HHT usually manifested with nose bleeding, telangiectasia over mucosa or skin, and multiple recurrent arterio-venous malformations (AVMs), especially in the gastrointestinal tract, liver, lung, or brain.

Most of the HHT patients lived without major bleeding episodes except recurrent epistaxis. However, brain abscess is a rare and potentially fatal complication.

Here we report a HHT patient who initially presented with brain abscess and confirmed to have a novel gene mutation of ENG and Lung AVM.

## Case description

A 63 years old man presented with history of recurrent episodes of melena over the last 2 months and recurrent hospital admission for blood transfusion. His medical history was remarkable for recurrent episodes of mild epistaxis that was stopped spontaneously. He also has positive family history of recurrent episodes of epistaxis.

On taking a detailed history, the patient had history of

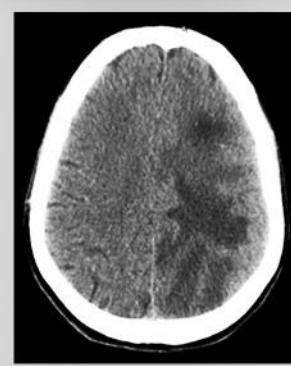


Figure 1: Brain CT showing hypodense area in Lt, parietal & temporal lobes.

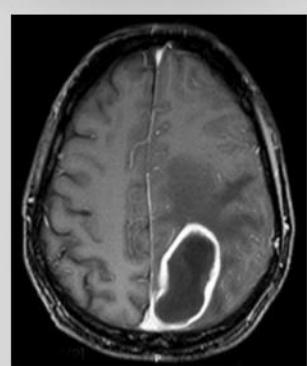


Figure 2: Brain MRI showing features of brain abscess.

minor head trauma without immediate complication. Three days later after the head trauma he complained of right body weakness & brain CT showed hypodense area in the left parietal and temporal lobes and he was managed as a case of ischemic stroke with antiplatelet agents (Fig.1).

The patient's condition didn't improve and it was complicated by headache and high grade fever, brain MRI was considered and showed features that consistent with brain abscess (Fig.2). Surgical evacuation of the abscess with good antibiotics coverage was performed and he had significant improvement in his condition. After surgery, the patient suffered from dyspnea and chest pain for which chest CT Angio with PE protocol done and showed filling defect in right lower pulmonary artery, distal segment of right lower pulmonary artery appear dilated 4 cm with peripheral thrombus (Fig.3). So, he was treated with anticoagulant.

The patient was diagnosed recently with pulmonary embolism and on anticoagulation admitted due to anemia and black tarry stool as a case of gastrointestinal bleeding for investigations and management.



### On Admission:

He complained of general weakness, easy fatigability, and breathlessness on exertion.

Physical examination was remarkable for diffuse telangiectatic lesions spread through his chest, lower lips, tongue, cheek mucosa, nasal mucosa, and face. His liver was firm, non tender, 3 cm below right costal margins. Clubbing of the fingers and toes. Cardiac and respiratory examination was normal. Vital signs were normal except for  $\text{SaO}_2$  85%.

Laboratory workup showed: Hb 9.2 g/dL, Hct 27 %, MCV 77, WBC 62,000, Plt 248,000. Coagulation profile, LFTs, KFTs, and electrolytes were normal.

We have reviewed the workup that was done for the patient and his contrast enhanced chest CT showed that was done previously as well as a new chest CT done at our hospital; both showed 3 pulmonary arteriovenous malformation (PAVM): one in the posteromedial segment of right lower lobe measuring 5.3 x 3.5 x 4.6 cm connected with a feeding artery (from the right lower lobar pulmonary artery) and draining vein (via right pulmonary vein) (Fig.3).



Figure 3: Chest CT showing AVM in posteromedial segment of right lower lobe.

The other two PAVMs were smaller, one seen in the basal segment of lower lobe of right lung, and the other is noted in the inferior lingular segment of the lower lobe of left lung, each measures 2 cm.

As the patient has no features of pulmonary embolism, anticoagulant drug was discontinued, and he received intravenous fluid and Esomeprazole.

Upper GI Endoscopy showed multiple small AVMs located at distal part of esophagus, single small fundal AVM (Fig.4A), multiple duodenal bulb and second part

of duodenum AVMs, normal third part duodenum.

Lower GI Endoscopy showed few left side colon AVMs (Fig.4B), otherwise normal colonoscopy from rectum up to the cecum. CT of the abdomen showed no AVMs of the liver.

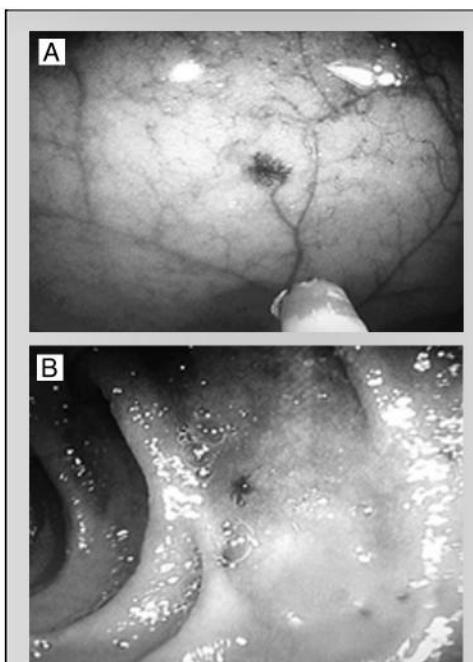


Figure 4:  
A) Upper GI endoscopy revealing gastric AVM.  
B) Colonoscopy revealing Lt. colon AVM.

Review of brain MRI done previously showed well defined thick wall left parietal structure, its appear hyperintense on T1W images and T2W images with regional marked vasogenic edema measuring about 5.5 cm in maximum dimension with contrast enhancement. Features are mostly consistent with brain abscess.

Brain MRI at our hospital showed an irregular area of abnormal enhancement in the posterior aspect of left parietal region, at the site of previous surgery, measuring about 3.7 cm in maximal dimension, mostly represent extra-axial enhancement. Appearance, mostly represent post-surgical changes.

ENT evaluation showed bilateral nasal walls lacerations, no AV malformation.

Genetic study & Mutation Analysis showed compound heterozygous mutations for ENG (protein product: Endoglin) consistent with Hereditary Hemorrhagic Telangiectasia type 1.

After taking detail family history found that family history of epistaxis was positive in his mother, one sister,



one brother, uncle (all were died) plus two daughters and one son, while visceral involvement was positive in his daughter who underwent lung lobectomy 30 years ago due to massive hemoptysis with no diagnosis, and his son was diagnosed recently due to abnormal chest and brain radiography finding with lung and brain AVMs (Fig.5).

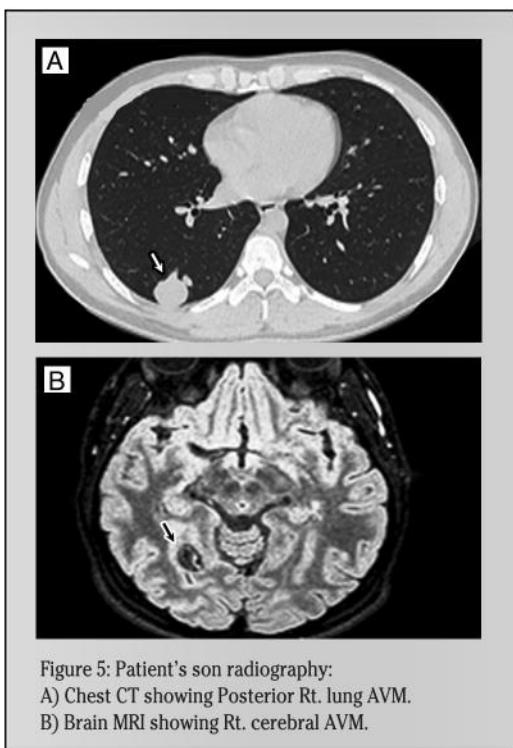


Figure 5: Patient's son radiography:  
A) Chest CT showing Posterior Rt. lung AVM.  
B) Brain MRI showing Rt. cerebral AVM.

## Discussion

This patient accomplishes the features of Hereditary Haemorrhagic Telangiectasia Syndrome with spontaneous and family history of recurrent epistaxis, multiple cutaneous mucous telangiectasia, visceral involvement and positive genetic mutation.

Also, his history of head trauma would suggest a rupture of brain AVMs followed by development of brain abscess or lung AVM complicated with paradoxical septic embolization through PAVMs and induce cerebral abscess.

For GI tract AVMs, Argon Plasma Coagulation was performed, and for symptomatic lung AVMs, he underwent Transcatheter Embolization therapy (TCE) for right and left lung AVM (Fig.6).

The patient was discharged in good general condition and on iron replacement therapy.

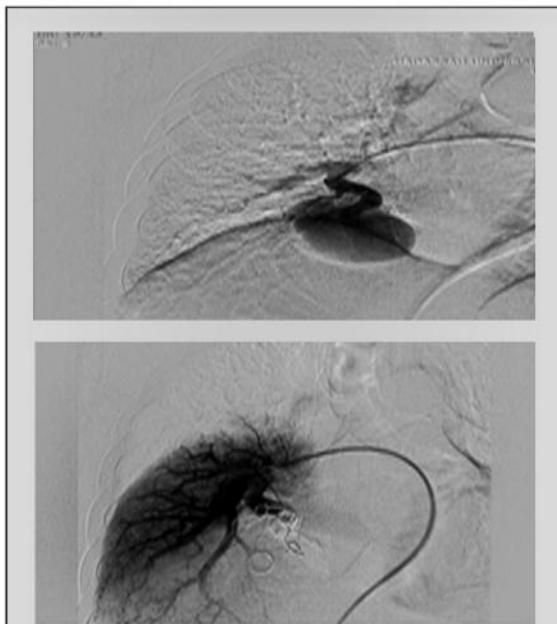


Figure 6:  
A) Rt. Pulmonary AVM (4\*4 cm) before embolization.  
B) Rt. Pulmonary AVM after embolization.

## Conclusion

Brain abscess is a rare manifestation of HHT. It is very crucial to maintain a high index of suspicion in patients who present with brain abscess with unknown source of entry. Additionally, the decision regarding whether to start anticoagulation or not for patients with HHT and thrombosis is a clinical dilemma and requires careful judgment.

## References:

1. Brain abscess as an initial presentation in a patient of hereditary haemorrhagic telangiectasia caused by a novel ENG mutation, Chen K-H, et al. BMJ Case Rep 2013. doi:10.1136/bcr-2013-008802.
2. Hereditary Hemorrhagic Telangiectasia: Diagnosis and Management , American Family Physician, Volume 82, Number 7, October 1, 2010.
3. International guidelines for the diagnosis and management of hereditary haemorrhagic telangiectasia , J Med Genet 2011;48:73e87. doi:10.1136/jmg.2009.069013.



# A Case of Acute Disseminated Encephalomyelitis (ADEM) in a Young Patient With History of Addison's Disease and Guillain–Barré Syndrome (GBS)

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## Background

Acute disseminated encephalomyelitis (ADEM) is a rare autoimmune demyelinating disease of the CNS that typically follows a febrile infection or a vaccination. The estimated incidence is 0.8 per 100 000 population per year. ADEM is most commonly seen in children and young adults, in which prognosis is favorable. Encephalopathy and focal neurological deficits are usually manifest several days after a prodromal illness with rapidly progressive neurologic decline. The diagnosis of ADEM is based on clinical and radiologic characteristics. Here we present a case of ADEM in an adolescent that he had a significant past history of Guillain–Barré syndrome (GBS) and Addison's disease which had a full recovery after 5 days of high dose methylprednisolone.

## Case description

A 13 years old male presented to ER complaining of decreased LOC, nausea, vomiting and abdominal pain for 1 day. These were preceded, 4 days ago, by an upper respiratory tract illness, which was characterised by fever, sore throat and dry cough. With profound history, the patient was diagnosed and treated as a case of Addison's disease when he suffered from similar complaints 1 year ago. As the patient's family mentioned, he wasn't adhere to his treatment for Addison's disease. Also, the patient was admitted to the hospital as GBS case when he was 7 years. He had full recovery after receiving the proper management. No family history of the similar attacks or inherited diseases.

On physical examination, the patient was afebrile, but underweight, drowsy, confused, and unsteady. Chest and heart were normal. There was diffuse mild abdominal tenderness. No neurological deficits or meningeal signs were evident at that time, but the patient had unilateral pes cavus in his left foot as a complication of trauma when he was child. No skin rash or mucosal hyperpigmented spots, but dark palmar creases.

He was evaluated at ER, and his vital signs were: BP 90/53, Temp 36.5, RR 20, Pulse 80.

The laboratory studies in ER showed slight hyperkalemia (5.6) with normal Na and Ca (140 & 8.9, respectively).

CBC results were: Hb 10.5 g/dL, MCV 70.7, RDW 14.5, WBC 12,400, Plt 170,000.

As a result, the patient has been admitted to the medical ward as a case of adrenal crisis for more workup and management.

Immediately after the admission, Dexamethasone has been started until performing the ACTH stimulation test in the next morning to confirm the adrenal crisis. In addition to Dexamethasone, the patient has been supported by hydration with 1L NS and 0.5L Dextrose as bolus, and 0.5L NS Q 6hrs, with monitoring the BP every 4 hrs.

The laboratory results in the next day were as follows:

- KFTs, LFTs, & electrolytes were within normal range.
- TSH: 3.07 (normal).
- ACTH stimulation test was +ve:  
Cortisol at 0 time = 1.5, 30 mins = 6.8, 60 mins = 9.5, 120 mins = 11.6 .

The adrenal crisis was confirmed, and Dexamethasone has been replaced by Hydrocortisone (50mg Q 6hrs).



Two days later, the patient was still sleepy, drowsy, confused and his LOC worsened despite of Hydrocortisone protocol and his normal BP (110/70).

Brain CT was done, and the result was normal (Fig. 1). The patient's family refused doing the LP to confirm or exclude encephalitis. So, Ceftriaxone, Vancomycin, and Acyclovir has been given as an empiric treatment for encephalitis.

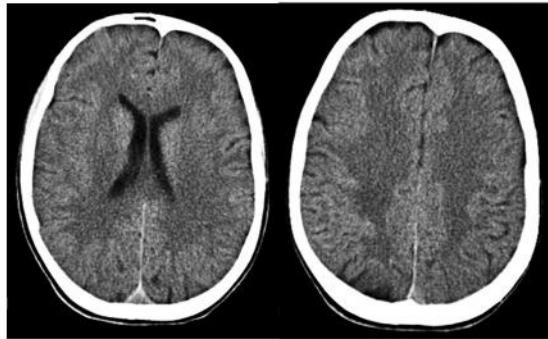


Figure 1: shows the normal Brain CT.

In the 3<sup>rd</sup> day of admission, the patient's neurological condition worsened with showing of evidence of cranial nerves palsies (drooling, swallowing difficulty, and dysarthria), left side hemiparesis, and urinary incontinence.

The profound neurological assessment has been considered and performed. The neurological evaluation revealed:

Bilateral Upper and Lower limbs weakness (Power 3/5), left side flaccid hemiparesis, left side facial nerve palsy, & absent gag reflex, hyporeflexia, positive Babinski sign. Pain, temperature, and vibratory sensations were intact.

The brain MRI has been considered and arranged immediately.

Brain MRI result revealed multiple lesions in subcortical white matter, basal ganglia, both thalamus, and brain stem on T2 & FLAIR signals which reflect the features of Acute Disseminated Encephalomyelitis (ADEM) (Fig.2). Immediately, the ADEM management protocol was started with methylprednisolone (0.5 gm/24hrs) as first-line therapy.

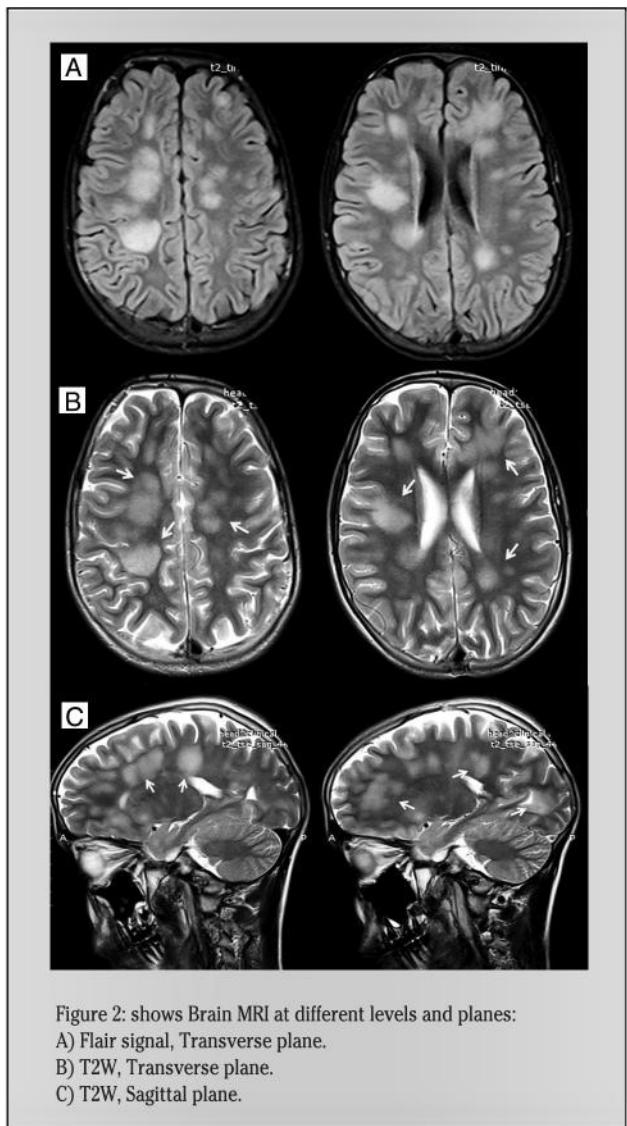


Figure 2: shows Brain MRI at different levels and planes:  
A) Flair signal, Transverse plane.  
B) T2W, Transverse plane.  
C) T2W, Sagittal plane.

After three days, the patient's condition obviously improved:

- LOC improved: the patient became fully conscious without drowsiness or somnolence.
- Signs of CN palsies disappeared.
- Upper and lower limbs power regained.
- Deep reflexes became normal.
- Urinary incontinence was recovered.
- Vital signs were stable.

After 5 days of pulse methylprednisolone therapy, the remarkable neurological recovery has been achieved. All neurological symptoms and signs of ADEM were resolved, and the patient regained his LOC and normal gait without any residual deficits. The patient was discharged after full clinical assessment and evaluation.



## Discussion

Acute disseminated encephalomyelitis (ADEM), also known as postinfectious encephalomyelitis, is a monophasic (No relapses) autoimmune demyelinating disease of the CNS that typically follows a febrile infection or a vaccination.

### Epidemiology:

ADEM is an uncommon illness. The estimated incidence is 0.4-0.8 per 100000 population. It is more common in children and adolescents. Several studies indicate a slight male predominance. In 50% to 75% of all cases, the clinical onset of disease is preceded by viral or bacterial infections, mostly nonspecific URTIs. So, most ADEM cases occur in the winter and spring. Less than 5% of all ADEM cases follow immunization.

### Clinical features:

Neurologic symptoms typically appear 4 to 13 days after the infection or vaccination in 50-75% of cases. Fever, headache, vomiting, and meningismus are often present at the time of initial presentation and may persist during the hospitalization. Encephalopathy (altered LOC, acute cognitive dysfunction, behavioral changes, and seizures) is a characteristic feature and usually develops rapidly in association with multifocal neurologic deficits.

In addition to encephalopathy, the most common neurologic features of ADEM include long tract (pyramidal) signs, acute hemiparesis, cerebellar ataxia, cranial neuropathies including optic neuritis, and spinal cord dysfunction (transverse myelitis).

### Diagnosis:

The diagnosis of ADEM is based upon the clinical and radiologic features. ADEM is considered when individuals develop multifocal neurologic abnormalities with encephalopathy, especially if the onset of symptoms occurs within 1 to 2 weeks after a viral/bacterial infection or a vaccination. There is no specific biologic marker or confirmatory test.

It is notable that bacterial and viral meningitis or encephalitis must be considered and ruled out by LP. Empiric treatment with broad-spectrum antibiotics and acyclovir should be considered until an infectious etiology is excluded.

Evidence of inflammation is common in cerebrospinal fluid (CSF), with pleocytosis and/or increased protein concentration in the majority of patients. However, the CSF can also be normal. Oligoclonal bands are a non-specific finding more often associated with multiple sclerosis; they may also occur in chronic central nervous system infections, viral syndromes, and neuropathies.

In contrast to brain CT which is not helpful, MRI of the brain and spine is important in establishing the diagnosis of ADEM. The abnormalities are best defined by T2-weighted images, FLAIR sequences, and contrast-enhanced MRI with gadolinium. Lesions associated with ADEM are typically large (>1 to 2 cm in size) multifocal, hyperintense, bilateral, asymmetric, poorly marginated, and located in the deep and subcortical white matter. The thalamus, basal ganglia, brainstem, and spinal cord are frequently affected.

### Management:

Since patients with ADEM usually present with fever, meningeal signs, acute encephalopathy, and evidence of inflammation in blood and CSF, it is important to first consider a treatment with antibiotics and/or acyclovir until an infectious cause is ruled out.

Once an infectious etiology has been excluded, intravenous methylprednisolone (10-30 mg/kg/d, maximum 1000 mg daily) for 3 to 5 days, is the mainstay of treatment for ADEM.

Multiple studies state that using an oral prednisone taper is not mandatory except in children who continue to show clinical symptoms after completion of the high dose IV glucocorticoid treatment. The full recovery in 60-90% of patients is a valuable result of this management protocol.

Intravenous immunoglobulin (IVIG) is recommended if there is no response to IV methylprednisolone.



Dosing of IVIG ranged from 1 to 2 g/kg, given either as a single dose, or divided over five days (0.4 g/kg/d).

Plasma exchange (PLEX) is recommended if there is no response to IVIG and IV methylprednisolone. In very severe cases, immunosuppression with cyclophosphamide should be attempted. In general, treatment should be initiated as early as possible and as aggressive as necessary.

## Conclusion

This case can be considered as one of the most interesting cases because it would help us to discover new relations between rare autoimmune diseases (ADEM, Addison's disease, and GBS). The estimated incidences for these autoimmune disorders are 0.8, 22.1, and 1.3 per 100000, respectively. So, It is not easy to find these uncommon diseases in one case.

Encephalopathy is the main feature of ADEM in addition to multifocal neurological abnormalities. It is necessary to exclude encephalitis before considering ADEM diagnosis. The diagnosis of ADEM is based upon the clinical and radiologic features. The excellent response to high dose steroid treatment behooves one to treat suspected cases of ADEM aggressively, as outcome can be favorable.

## References:

1. Nathan P. Young, Brian G. Weinshenker, Claudia F. Lucchinetti. Acute Disseminated Encephalomyelitis: Current Understanding and Controversies. *Semin Neurol* 2008 Feb;28(1):84-94.
2. Krupp LB, Banwell B, Tenembaum S, et al. Consensus definitions proposed for pediatric multiple sclerosis and related disorders. *Neurology*. 2007; 68:S7-S12.
3. Leake JA, Albani S, Kao AS, et al. Acute disseminated encephalomyelitis in childhood: epidemiologic, clinical and laboratory features. *Pediatr Infect Dis J*. 2004; 23:756-764.
4. Dale RC, de Sousa C, Chong WK, Cox TC, Harding B, Neville BG. Acute disseminated encephalomyelitis, multiphasic disseminated encephalomyelitis and multiple sclerosis in children. *Brain*. 2000;123:2407-2422.
5. Lotze TE, Chadwick DJ. Acute disseminated encephalomyelitis in children: Pathogenesis, clinical features, and diagnosis. UpToDate. 2017.



# Cavitory Pulmonary TB With Fungal Coinfection: Case report

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## Introduction

Cavitory lung lesions are relatively common findings on chest imaging and often pose a diagnostic challenge to the hospitalist. Having a standard approach to the evaluation of a cavitory lung lesion can facilitate and expedite workup.

A lung cavity is defined radiographically as a lucent area contained within a consolidation, mass, or nodule. Cavities usually are accompanied by thick walls, greater than 4 mm. These should be differentiated from cysts, which are not surrounded by consolidation, mass, or nodule, and are accompanied by a thinner wall.

The differential diagnosis of a cavitory lung lesion is broad and can be delineated into categories of infectious and noninfectious etiologies.

Infectious causes include bacterial, fungal, and, rarely, parasitic agents.

Among bacterial infections *Streptococcus pneumoniae*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, or *Haemophilus influenzae* have been reported along with *Mycobacterium tuberculosis* which is classically associated with cavitory pulmonary disease.

Noninfectious causes encompass malignant, rheumatologic, and other less common etiologies such as infarct related to pulmonary embolism.

The clinical presentation and assessment of risk factors for a particular patient are of the utmost importance in delineating next steps for evaluation and management. For those patients of older age with smoking history, specific occupational or environmental exposures, and weight loss, the most common etiology is neoplasm.

Common infectious causes include lung abscess and necrotizing pneumonia, as well as tuberculosis. The approach to diagnosis should be based on a composite of the clinical presentation, patient characteristics, and radiographic appearance of the cavity.

## Case presentation

A 43 years old male patient with unremarkable medical history presented to the ER of our hospital complaining of productive cough, fatigue, anorexia and low grade fever.

His symptoms has been started 2 weeks ago for which he seek medical advice and received outpatient antibiotic and antipyretic but without clinical response.

The patient has no pertinent history , nonsmoker , and no history of travelling.

There was no contact with animals or febrile patients. In the ER the patient was looking ill , underweight.

Temperature was 37.8 C , there was no LAPs , no goiter nor lower limbs edema.

Chest examination revealed bilateral rhonchi with no crackles.

Cardiac, abdominal, & neurological examinations were unremarkable.

Initial laboratory investigations including CBC , KFTs, LFTs, urine analysis were normal.

His first chest X-ray revealed a 1.9 cm right upper lobe cavitory lung lesion (Fig.1A), which enlarged and showed air-fluid level on CXR after 4 days (Fig.1B).

The patient was commenced on empirical Clindamycin therapy for suspicion of pyogenic lung abscess and sputum culture and Acid Fast Staining were ordered but were negative.

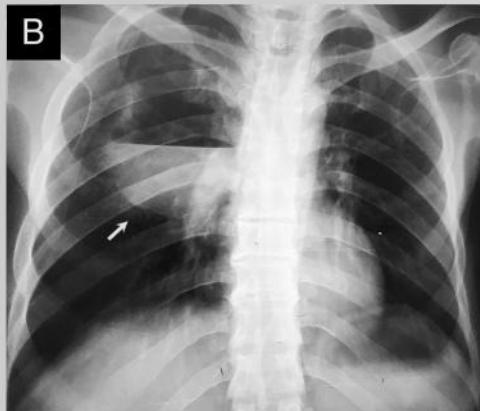


Figure 1:  
A) Right upper lobe cavitary lung lesion.  
B) Enlarged cavity lesion with air-fluid level appearance.

CT of the chest was scheduled and revealed cavitary mass within the posterior segment of right upper lobe that contained an air-fluid level (Fig.2).

Bronchoscope and BAL was performed with no evidence of malignant lesion, but Acid Fast staining of the fluid was positive for *Mycobacterium tuberculosis* with concomitant fungal infection (Fig.3).

The patient was commenced on Antituberculous drugs (local standard regimen) with four anti-TB therapy along with Fluconazol orally with high protein diet and showed slow but remarkable clinical and radiological improvement (Fig.4) over the next few weeks with improving his appetite and resolving the fatigue.



Figure 2: Cavitary mass within the right upper lobe that contained an air-fluid level.

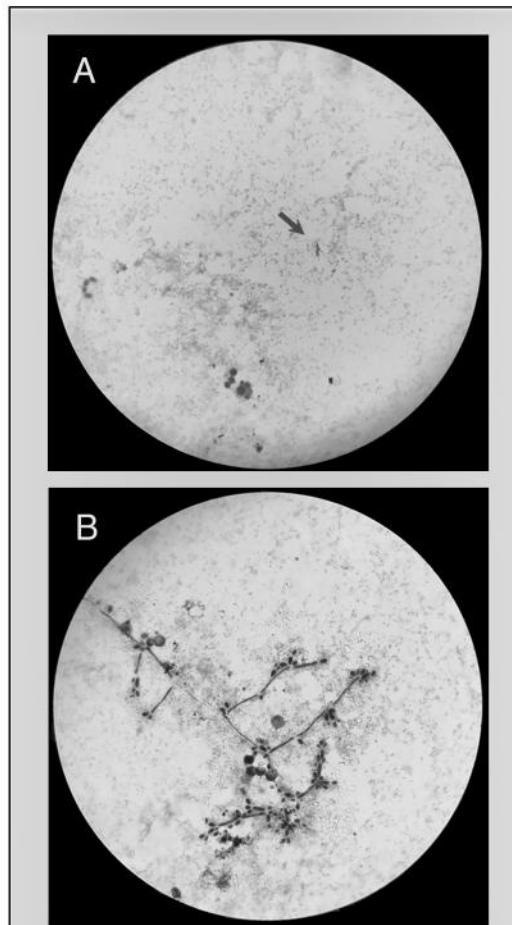


Figure 3: Acid-Fast Stain:  
A. mycobacterium TB.      B. Fungal infection.

## Discussion

*Mycobacterium tuberculosis* is classically associated with cavitary pulmonary disease. Although tuberculosis case rates have declined in many developed countries, the human immunodeficiency virus epidemic has led to

a tremendous increase in tuberculosis cases in the developing world, particularly in sub-Saharan Africa. In addition to human immunodeficiency virus infection, other risk factors for tuberculosis include exposure-related factors, such as birth in a country where tuberculosis is endemic and immunologic deficits that increase the risk of progression from latent to active tuberculosis, such as diabetes, hematologic and head

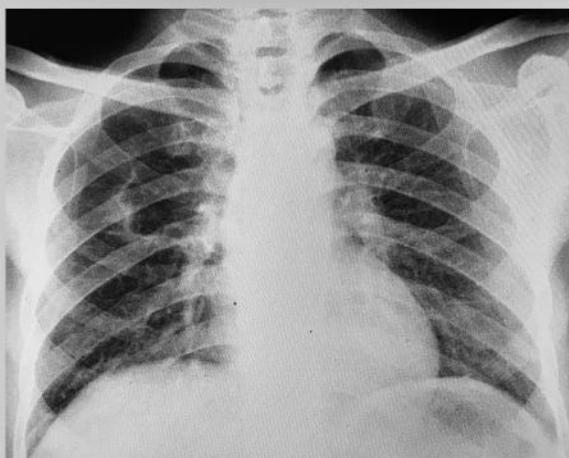


Figure 4: The cavitary lesion improved and air-fluid level disappeared.

and neck malignancies, organ transplantation, corticosteroid use, and tumor necrosis factor antagonist use. Pulmonary tuberculosis generally presents subacutely, with weeks to months of productive cough, fever, night sweats, weight loss, and, occasionally, hemoptysis. The chest radiograph typically reveals pulmonary infiltrates in the apical and posterior segments of the upper lobe or the superior segment of the lower lobe, often associated with cavitation .

The prevalence of cavities on plain radiographs varies widely by series, but most series report cavitation in 30 to 50% of patients. Multiple cavities are often present and frequently occur in areas of consolidation . Cavities can vary widely in size and have been reported to have both thick and thin walls . The presence of cavitation is associated with a greater degree of infectiousness, likely due to higher organism burden. Supporting the association between cavitation and organism burden, cavitary disease is independently associated with increased time for acid-fast smears and cultures to become negative in patients receiving tuberculosis therapy as well as an increased risk of relapse after treatment completion . Similar to other cavitary lung diseases, CT is more sensitive than plain radiography for the detection of tuberculous cavities.

In general, Antituberculous regimens consists of two phases: an intensive phase followed by a continuation phase, the intensive phase consist of four drugs (Isoniazid, Rifampin, Pyrazinamide, And Ethambutol) administered for two months. The continuation phase usually consists of two drugs (isoniazid and rifampin) administered for at least four months.

#### References:

1. L. Beth Gadkowski and Jason E. Stout . Cavitary Pulmonary Disease. Clin Microbiol Rev. 2008 Apr; 21(2): 305–333.
2. Patrick Rendon, MD,Charles Pizanis, MD ,Marc Montanaro, MD ,Erik Kraai, MD. What Is the Best Approach to a Cavitary Lung Lesion?. The Hospitalist. 2015 March;2015(3)
3. Shital Patil, Halkanche Gajanan. Cavitary Lung Disease: Not Always due to Tuberculosis! Primary Lung Cancer with Smear Positive Pulmonary Tuberculosis- A Case Report. American Journal of Medical Case Reports, 2014 2 (8), pp 164-166.
4. John G Bartlett, MD. lung abscess .UpTodate 2017.



# A Case Report of Giant Hydatid Cyst of the Lung

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## Case description

A 14 years old male patient with previous no significant medical history presented with left side chest pain, fever, and productive cough.

His problems started 3 days ago with sudden onset of fever mainly at night documented 38.5 C by his mother followed by productive cough with moderate amount of purulent sputum not containing blood, associated with left side constant chest pain.

His mother commented on here child's health state that he has no previous medical problems , and received his all vaccinations but he continuously complaining from a persistent chest pain on the left side for the last 6 months.

The patient has no contact with sick patients or animals. He has no history of travelling or allergy and takes no specific medications.

Physical examination was unremarkable apart from temperature 38.8 C, otherwise there was no LAPs, no goiter, no skin eruptions.

Chest examination was normal except from mild decrease of breathing sounds on the left side with no added sounds. Examination of the heart , abdomen and CNS was unremarkable.

Basic investigations were ordered including CBC, KFTs, LFTs and urine analysis which all were within normal range.

An initial chest X-ray showed well defined round shape opacity occupy the left lower radiological zone (Fig.1). The patient was commenced on IV ceftriaxone along with oral azithromycin for possible left side pneumonia and chest CT was ordered for the next day.



Figure 1: Round shaped opacity of diameter 8 x 6.5 cm occupied left lung.

On the next admission day, the patient showed no significant clinical improvement and chest CT with contrast was available which showed huge cystic lesion 11 x 9 cm at left side of lung (Fig. 2).

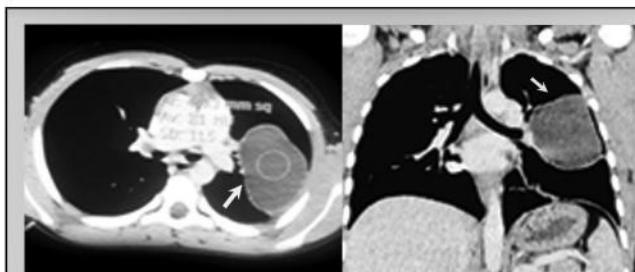


Figure 2: Chest CT with contrast shows a cystic lesion 11 x 9 cm at left side of lung.

A possible diagnosis of hydatid cyst or congenital bronchogenic cyst were suspected and thoracic surgery consultation was arranged.

On the 4<sup>th</sup> day of admission the patient was evaluated by thoracic surgeon who raised the possibility of bronchogenic cyst not related to the patients present medical history and surgical intervention was discussed with his mother and arranged next week.



The operation revealed a very large cyst with whitish laminated membrane measuring about 18 x 13 cm and containing more than 1.5 liters of fluid indicative of hydatid cysts (Fig. 3).

The postoperative course was uneventfully and he was discharged after 7 days with a 4-week course of postoperative Albendazole. The progress of patient follow-up was smooth.

## Discussion

Hydatid disease is a parasitic infestation caused by *Echinococcus Granulosus*. It is endemic in many countries. The lungs are the second most common sites for hydatid cysts after the liver. The majority of lung hydatid cysts are silent and either small or medium in size. Non-complicated hydatid cysts are usually discovered incidentally during routine chest X-rays for complaints other than chest diseases.

Giant hydatid cysts as our case and complicated cysts, on the other hand, are usually symptomatic. The common presentations are compression symptoms such as a dry cough in cases of very large cysts; a productive cough in cases associated with communication with the bronchial tree; and chest pain and dyspnea in the case of rupture to the pleural cavity. Management options for Cystic Echinococcosis include surgery, percutaneous management, drug therapy, and observation.

In general, clinical approach depends on the WHO diagnostic classification (table 1).

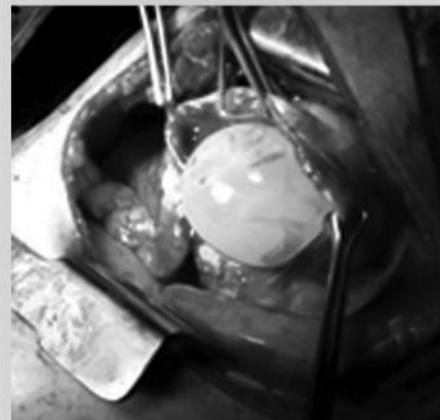


Figure 3: The excised, very large, lung white cyst (giant hydatid cyst).

WHO stage	Description	Stage	Size	Preferred treatment	Alternate treatment
CE1	Unilocular unechoic cystic lesion with double line sign	Active	<5 cm	Albendazole alone	PAIR
			>5 cm	Albendazole + PAIR	PAIR
CE2	Multiseptated, "rosette-like" "Honeycomb" cyst	Active	Any	Albendazole + either modified catheterization or surgery	Modified catheterization
CE3a	Cyst with detached membranes (water-lily sign)	Transitional	<5 cm	Albendazole alone	PAIR
			>5 cm	Albendazole + PAIR	PAIR
CE3b	Cyst with daughter cysts in solid matrix	Transitional	Any	Albendazole + either modified catheterization or surgery	Modified catheterization
CE4	Cyst with heterogenous hypoechoic/hyperechoic contents; no daughter cysts	Inactive	Any	Observation	-
CE5	Solid plus calcified wall	Inactive	Any	Observation	-

Table 1: CE: cystic Echinococcosis; PAIR: puncture, aspiration, injection, reaspiration.

## References:

1. Nagi Homesh Ghallab\* and Ali Ali Alsabahi.Giant viable hydatid cyst of the lung: a case report .journal of medical case report,
2. Kavukcu S, Kilic D, Tokat AO, Kutlay H, Cangir AK, Enon S, Okten I, Ozdemir N, Gungor A, Akal M, Akay H: Parenchyma-preserving surgery in the management of pulmonary hydatid cysts. J Invest Surg 2006, 19(1):61-68.
3. Safioleas M, Misiakos EP, Dosios T, Manti C, Lambrou P, Skalkeas G: Surgical treatment for lung hydatid disease. World J Surg 1999, 23(11):1181-1185.
4. Karaoglanoglu N, Kurkcuoglu IC, Gorguner M, Eroglu A, Turkyilmaz A: Giant hydatid lung cysts. Eur J Cardiothorac Surg 2001, 19(6):914-917.
5. Elhaban A, Elzayat S, Elmuzaien M, Nasher A, Homesh N, Alabsi M: The effect of preoperative albendazole in the treatment of liver hydatid cysts. Egyptian Journal of Medical Laboratory Sciences 1994, 15(2):309-319.
6. UpTodate 2017, online accessed version.



# A Case Report of Diffuse Alveolar Hemorrhage (DAH) as a Complication of Systemic Lupus Erythematosus (SLE)

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## Case description

A 23 years old lady was treated for many years for hypothyroidism and schizophrenia. She was diagnosed in March 2016, to have SLE with severe disease manifestations based upon the following findings:

Raynaud phenomenon, Arthritis, Proteinuria, Pancytopenia, Carditis (Echo: Dilated LV, EF 45%, moderate pericardial effusion), Interstitial lung disease, and Positive ANA, and Anti-Smith antibodies.

The patient has received pulse methylprednisolone and was discharged on:

Prednisone (60mg/day), Mycophenolate mofetil (1g twice daily), Hydroxychloroquine, Calcium, vitamin D, Levothyroxine, and antipsychotic medications.

She remained stable till 26<sup>th</sup> May 2016 when she was admitted to the medical ward with one week history of dyspnea on minimal exertion and 3 days history of confusion. She also had haemoptysis once on the day of admission.

On examination: she was in respiratory distress (cyanosed, tachypnic), and confused. BP: 120/70, T: 37 C.

- Chest examination: bilateral diffuse crackles.
- Heart: Regular heart rhythm, but tachycardia.
- Abdomen was soft and lax
- Neurological assessment showed semiconscious, disoriented patient, negative meningeal signs, normal pupils size, reactive, no lateralization signs.

Her initial lab tests: CBC (WBC 10,200; HB 11.5 g/dL, PLT 275,000), ESR 100, RBS 129, Cr 0.6, Na 139, Ca 8.8, k 4.3, PTT 34, INR 1.2.

The patient was intubated and admitted to ICU as hypoxic respiratory failure. Her blood pressure after intubation was 80/50. ABGs on mechanical ventilation,

FiO<sub>2</sub> 100%, RR 14 bpm, TV 550ml, PEEP 10 (PH 7.13, PCO<sub>2</sub> 67, PO<sub>2</sub> 60, SaO<sub>2</sub> 82%, HCO<sup>3</sup> 21).

CXR showed patchy infiltration affecting both upper and lower lobes bilaterally

Chest CT revealed bilateral patchy infiltration suggestive of alveolar haemorrhage. Brain CT was normal.

Suctioning from Endotracheal tube (ETT) was considered and revealed frequent bloody secretions.

HRCT Chest was performed and the result was:

- Bilateral ill-defined consolidation, affecting more the middle posterior zone with air bronchogram and ground glass appearance (Fig.1A, B).
- Diffuse air seen in all parts of the mediastinum (Fig.1C).
- Conclusion: diffuse bilateral consolidation suggestive of alveolar haemorrhage.

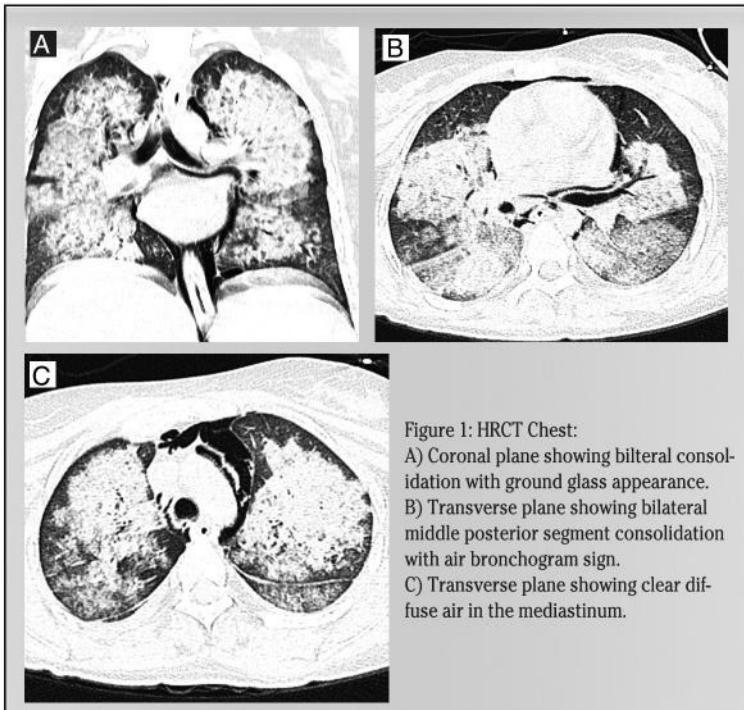


Figure 1: HRCT Chest:  
A) Coronal plane showing bilateral consolidation with ground glass appearance.  
B) Transverse plane showing bilateral middle posterior segment consolidation with air bronchogram sign.  
C) Transverse plane showing clear diffuse air in the mediastinum.



The patient was commenced on pulse methylprednisolone for 5 days then maintained on prednisone (60mg/day). Along with methylprednisolone, she received meropenem, vancomycin, and IV cyclophosphamide (1g). The patient was extubated on the 4<sup>th</sup> day then transferred to medical ward on the next day. She was conscious, oriented. She developed severe neutropenia at the 7<sup>th</sup> day of cyclophosphamide therapy for which she needed neupogen for 2 days.

The patient was discharged from the hospital on 9<sup>th</sup> June 2016 in stable general condition. Thereafter, she received IV CYC (750mg) for 6 months and then maintained on Cellcept and prednisone. She is still followed in the outpatient clinic.

## Discussion

Diffuse Alveolar Hemorrhage (DAH) is an uncommon, potentially life-threatening manifestation of systemic lupus erythematosus (SLE), occurring in less than 2% of patients. Survival trends demonstrate an increase from approximately 25% in the 1980s to 67% in the current decade.

Because of the rarity of DAH in SLE, prospective studies are difficult to perform, and most of the published literature on this condition is in the form of case reports, case series or systematic review.

The condition is typically characterized by:

- Shortness of breath with or without hemoptysis,
- New infiltrates on chest radiography,
- Drop of hemoglobin of at least 1.5 g/dL.
- The diagnosis can be confirmed using bronchoscopy and BAL revealing bloody return and hemosiderin laden macrophages.

Factors associated with mortality include: Mechanical ventilation, renal failure, and infections.

The current management for DAH in SLE includes high-dose intravenous corticosteroids, intravenous cyclophosphamide, and extensive supportive care. Plasmapheresis (PF) has been used in SLE patients since the early 1980s; however, the studies failed to confirm their benefit.

## References:

1. Ali Nawaz Khan, MBBS, FRCS, FRCP, FRCR; Chief Editor: Eugene C Lin, MD. Thyroid Nodule Imaging, Medscape .Updated: Aug 12, 2015.
2. Douglas S Ross, MD, Cystic thyroid nodules, UpToDate 2017, online version.



# A Case of Marfan Syndrome With Multiple Cardiac Manifestations

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## Background

One of the most common inherited disorders of connective tissue, Marfan syndrome (MFS) is an autosomal dominant condition with a reported incidence of 1 in 3000 to 5000 individuals. There is a broad range of clinical severity associated with MFS and related disorders, ranging from isolated features of MFS to neonatal presentation of severe and rapidly progressive disease involving multiple organ systems. Aortic root disease, leading to aneurysmal dilatation, aortic regurgitation, and dissection, is the main cause of morbidity and mortality in the MFS. Echocardiography is recommended at initial diagnosis and at six months to assess the aortic root and ascending aorta in patients with MFS, and monitoring should be performed at least annually. In this case, we exhibit a case of Marfan syndrome associated with multiple cardiac manifestations.

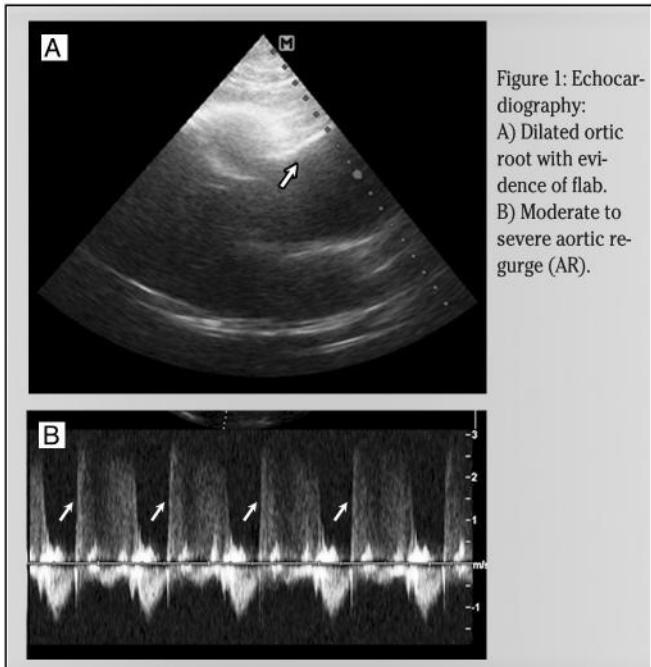
## Case description

A 44 years old male patient with no history of chronic medical illnesses was admitted to Nasser Medical Complex Complaining of abdominal discomfort and epigastric pain associated with repeated vomiting. No history of food poisoning.

On physical examination, it was notable that the patient was tall and thin, with disproportionately long arms and legs and high arched palate (the features of Marfan syndrome). Chest was clear on auscultation, but there was a clear pectus excavatum. Heart had regular rhythm with diastolic murmur. His abdomen was tender for palpation and showed palpable and pulsatile epigastric area.

The patient's family history was remarkable for MFS among his mother (died on 53 years due to unspecified cardiac problem), his brother (died on 52 years when he was on surgical theatre for aortic valve replacement (AVR) and CABG), his sister and his son, who were diagnosed with aortic root dilatation (46mm, and 42mm, respectively) and commenced on Beta-Blockers from while.

ECG showed regular sinus rhythm. Echocardiography has been considered, and it revealed dilated aortic root, with evidence of flap at the posterior wall of ascending aorta (Fig.1A) and moderate to severe aortic regurgitation (Fig.1B). The chest and abdomen CT angiograph with contrast has been arranged urgently which showed evidence of ascending and descending aortic dissection (Fig.2). So, the patient was prepared for urgent cardiothoracic surgery for aortic valve replacement (AVR) and aortic graft.





After the surgery, the patient's general condition was better and his complaints disappeared, and he was commenced on Warfarin and Beta-Blockers.

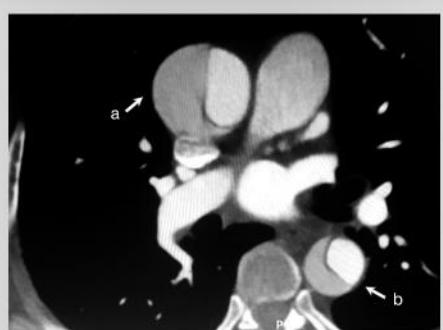


Figure 2: Chest CT angio with contrast showing extended ascending (a) to descending (b) aortic dissection.

## Discussion

The diagnosis of Marfan syndrome (MFS) in familial and sporadic cases is based upon the presence of characteristic manifestations particularly aortic root dilatation/dissection and ectopia lentis, as well as other systemic features including skeletal findings, mitral valve prolapse, dural ectasia, pneumothorax, and skin striae. The presence of a likely causal fibrillin 1 (FBN1) mutation lends strong support to the diagnosis in combination with certain clinical features.

Aortic root disease, leading to aneurysmal dilatation, aortic regurgitation, and dissection, is the main cause of morbidity and mortality in the MFS. Dilatation of the aorta is found in approximately 50% of children with MFS and progresses with time. Approximately 60-80% of adult patients with MFS have dilatation of the aortic root by echocardiography, often accompanied by aortic regurgitation (AR). Dilatation may also involve other segments of the thoracic aorta, the abdominal aorta, the root of the pulmonary artery or even the carotid and intracranial arteries.

As recommended in the 2010 by American Heart Association, echocardiography is recommended at initial diagnosis and at 6 months to assess the aortic root and ascending aorta in patients with MFS.

In adults with MFS, yearly sonographic measurement of aortic root diameter is recommended as long as the diameter is <45 mm; more frequent monitoring is recommended if the aortic root diameter is >=45 mm or if the

shows rapid change (>=0.5 cm/year) or if there are concerns regarding heart or valve function.

First-degree relatives of patients with a gene mutation associated with aortic aneurysms and/or dissection should undergo counseling and genetic testing. Those found to have the genetic mutation should then undergo aortic imaging. For patients with aortic aneurysm and/or dissection without a known mutation, aortic imaging is recommended for first-degree relatives to identify those with asymptomatic disease. If one or more first-degree relatives are found to have thoracic aortic dilatation, aneurysm, or dissection, then imaging of second-degree relatives is reasonable.

Untreated MFS is frequently associated with aortic dissection. Many patients with MFS and aortic dissection have a family history of dissection. The frequency with which MFS is responsible for aortic dissection was addressed in a review from the International Registry of Aortic Dissection (IRAD). The frequency varied importantly with age. MFS was present in 50% of those under age 40, compared to only 2% of older patients with aortic dissection and, in another report from IRAD, no patient over age 70.

A beta blocker should be used in children and adults with MFS unless there is an absolute contraindication. The dose should be individually titrated to limit heart rate to less than 100 beats per minute following submaximal exercise.

For patients with MFS, elective aortic repair is associated with reduced mortality when compared to urgent or emergent repair. Elective surgical intervention should be considered when an adult has an aortic root diameter of >=50 mm and a child has a disproportionately rapid increase in aortic diameter when compared to the rate of increase in body surface area even if the diameter is <=50 mm.

## References:

1. Erbel R, Alfonso F, Boileau C, et al. Diagnosis and management of aortic dissection. Eur Heart J 2001; 22:1642.
2. Ramirez F, Godfrey M, Lee B, et al.. Marfan syndrome and related disorders. In: The Metabolic and Molecular Basis of Inherited Disease, Scriver CR, Beaudet AL, Sly WS, et al. (Eds), McGraw Hill, New York 1995. p.4079.
3. Judge DP, Dietz HC. Marfan's syndrome. Lancet 2005; 366:1965.



# A Case Report of Catastrophic Antiphospholipid Antibody Syndrome

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## Background

Antiphospholipid syndrome (APS) is a multisystem autoimmune condition characterized by vascular thromboses and/or pregnancy loss associated with persistently positive antiphospholipid antibodies (aPL; measured with lupus anticoagulant [LA] test, anticardiolipin antibody [aCL] enzyme-linked immunosorbent assay [ELISA], and/or anti- $\beta$ 2-glycoprotein-I antibody). In its most severe form, a minority of patients develop life-threatening multiple organ thromboses, usually associated with microthrombosis, recognized as catastrophic APS (CAPS).

## Case description

An 18 years old female patient presented to us as a consultation from general surgery department, she was admitted there with suspicion of appendicitis. She was complaining of sudden onset severe abdominal pain started few hours prior to admission and localized in right iliac fossa. The pain was associated with fever (38 C) responded well to antipyretics. She also noted that her right big toe was painful with bluish discoloration. The patient reported attacks of dyspnea.

An abdomen CT was done at surgical department to rule in a diagnosis of appendicitis and the result was a coincidental finding of consolidation of retro-cardiac part of lung.

### Past History:

No past surgical history of significance. However, the medical history revealed that the patient was diagnosed with hypercoagulability state, she had a DVT in her right leg 12 months ago during 1st month of her

pregnancy. She also complained of joint pain in both knees.

### Gynecological history:

The patient has normal menstrual history. She had 2 pregnancies; the first one aborted at 1 month age and complicated by DVT. The second one aborted at 6 weeks despite full anticoagulation.

On physical examination, the patient looked ill. No pallor, cyanosis, or jaundice. Breaths freely. Vital signs were stable and her BMI was 23. Neck, chest, heart, and abdomen examinations were normal.

Hand examination revealed bilateral splinter hemorrhage. Lower limbs examination showed nothing significant except for bluish discoloration of right big toe.

### Investigations:

CBC: WBC: 13,000; Hb: 10 g/dL, MCV: 70, Plt: 50,000.

LFTs, KFTs, RBS, and electrolytes results were normal. Coagulation study (PTT, PT, INR) was within normal range.

Abdomen US was normal.

CT Abdomen: thickening of bowel loop and mesentery as well as the tip of appendix. Inflammatory changes involving right sacroiliac joint.

Echocardiography and Transesophageal echocardiography (TEE) were done to rule any thrombi or vegetation and were normal.

In less than 24 hours, the patient started to complain from blurring of vision and severe back pain that did not relieve on any analgesic. MRI and MRA for the brain and the spine showed normal brain study, but necrotic vertebral body in L4 and iliac bone in spine study.

ESR, ANA, C3 and C4 levels, Anti DsDNA, and antiphospholipid was ordered, and the results were as follows:



- ESR: 110
- ANA: 2.15 S/CO (positive >1.2)
- C3: 96.4 mg/dl (90-180)
- C4: 11.07 mg/dl (10-40)
- Anti DsDNA IgM: 58 IU/ml (Normal < 20)
- Anti cardiolipin antibody IgG: 78 GPL (Normal < 10)
- Anti cardiolipin antibody IgM: 20 MPL (Normal < 7)
- Antiphospholipid IgG: 40 GPL (Normal < 10)
- Antiphospholipid IgM: 30.6 MPL (Normal < 10)
- Anti beta-2 glycoprotein I IgG: 48.2 U/ml (Normal < 5)
- Anti beta-2 glycoprotein I IgM: 36 U/ml (Normal < 5)

So, the final diagnosis was Catastrophic Antiphospholipid antibody syndrome (CAPS) secondary to SLE.

### Discussion

Catastrophic Antiphospholipid antibody syndrome (CAPS) is a serious form of Antiphospholipid antibody syndrome (APS) in which there is rapid development life-threatening multiple organ thrombosis, usually associated with micro thrombosis.

The unique characteristics of CAPS are:

- Rapid onset thrombosis resulting in multiple organ dysfunction syndrome.
- Common association with other thrombotic microangiopathies (TMAs).
- Evidence of systemic inflammatory response syndrome.
- High risk of unusual organ involvement.
- Relatively high mortality rate despite the optimal therapy.

### Management:

A majority of patients with catastrophic APS who survive their initial illness remain free of further thromboembolic events when treated long-term with warfarin. Recommended management for patients with the catastrophic APS (CAPS) consists of the following:

- Treatment of any identifiable disorder that may have precipitated the catastrophic APS (eg, infection).
- Anticoagulation with heparin in the acute setting, followed by long-term warfarin.
- High-dose glucocorticoids (eg, methylprednisolone 1 g intravenously daily for three days) followed by oral or parenteral therapy with the equivalent of 1 to 2 mg/kg of prednisone per day.
- If there are features of microangiopathy (eg, thrombocytopenia, microangiopathic hemolytic anemia), plasma exchange (see below) with or without IVIG (eg, 400 mg/kg per day for five days) are added to the above regimen.

**Therapeutic plasma exchange (TPE):** Given that the half-lives of IgG and IgM antibodies are 22 and 5 days, respectively, and given that the anticardiolipin antibodies may be prime mediators in the thrombosis associated with CAPS, TPE, with its ability to rapidly remove these antibodies, becomes an appealing therapeutic option.

### References:

1. Erkan D., Espinosa G., Cervera R. (2010) Catastrophic antiphospholipid syndrome: updated diagnostic algorithms. Autoimmun Rev 10: 74-79.
2. Wilson W., Gharavi A., Koike T., Lockshin M., Branch D., Piette J., et al. (1999) International consensus statement on preliminary classification criteria for definite antiphospholipid syndrome: report of an international workshop. Arthritis Rheum 42: 1309-1311.
3. Pengo V., Tripodi A., Reber G., Rand J., Ortel T., Galli M., et al. (2009) Update of the guidelines for lupus anticoagulant detection. Subcommittee on Lupus Anticoagulant/Antiphospholipid Antibody of the Scientific and Standardisation Committee of the International Society on Thrombosis and Haemostasis. J Thromb Haemost 7: 1737-1740.



# A Case of Intracranial Hemorrhage (ICH) Complicated With Venous Thromboembolism (VTE)

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## Introduction

This is the case of a patient presenting with Intracerebral hemorrhage complicated with DVT, the challenge was to treat a venous thromboembolism with Anticoagulants in such patient.

## Case description

The patient is a 53 years old right-handed male, smoker, with a past medical history significant for hypertension and diabetes (was not compliant to his medications) who presented to ER complaining of disturbed LOC, with right side body weakness few hours prior to presentation. There was no history of any cardiac abnormality, neither past nor family history of similar illness. No history of antithrombotic drugs intake and irrelevant systems review.

With initial physical examination, the patient was comatose, GCS 8/15, and his blood pressure was 170/105. Neurologic examination showed hypotonia & hyporeflexia bilaterally in upper and lower limbs, the power was 0/5 on the right. No abnormalities detected in other systems. Initial laboratory studies revealed a normal platelet count and coagulation profile.

Emergent non-contrast head CT revealed a hyperdense parenchymal lesion of blood density was seen periventricularly at the left basal ganglia region (Fig.1), also, diffuse subarachnoid hemorrhage. The ICH score was 2 (30 day mortality 26%). In addition to early intensive BP management, the patient was subsequently intubated for airway protection. He was then moved to the intensive care unit (ICU) for more stabilization, BP control and monitoring.



Figure 1: Brain CT Shows left ICH.

After 3 weeks, the patient shifted to the medical ward for more monitoring and follow up. He stayed in our department about 1 month, during this period he complicated with urosepsis and aspiration pneumonia which were appropriately treated. Also, he developed DVT (proved by Doppler U/S) despite proper prophylaxis. The challenge was if you treat him, the risk of bleeding will be high, and if you don't, the risk of venous thromboembolism will be high also. So, our decision was to repeat brain CT which gave us assurance of cessation of bleeding and no hematoma expansion. Then, we started enoxaparin S.C. immediately.

The patient discharged from our department after assurance of resolution of hematoma, regain his consciousness, good BP & blood glucose control, treatment of infected complication (urosepsis, aspiration pneumonia), treatment of DVT, and prevent fatal PE (on rivaroxaban 15mg bid for 21 days then 20mg daily for 6 months), started appropriate limbs physiotherapy in a rehabilitation center.

After 3 weeks the patient came to outpatient clinic for follow up. He was well, conscious, not complaining apart from minimal spastic contracture.



## Discussion

Antithrombotic therapy is associated with hematoma expansion, which in turn is associated with neurologic deterioration and worse outcomes.

All anticoagulant and antiplatelet drugs should be discontinued acutely after the onset of ICH, and anticoagulant effect should be reversed immediately with appropriate agents. It was recommended intermittent pneumatic compression for prevention of venous thromboembolism (VTE) in patients with acute ICH who have restricted mobility.

After one to two days, we considered adding anticoagulation therapy, weighting the competing risks of VTE (degree of immobility) versus the risk of hematoma expansion (blood pressure control, spot sign, hematoma volume).

Anticoagulation therapy is indicated in most patients who develop VTE after ICH because pulmonary embolism (PE) is associated with high rates of mortality, and because of PE and deep venous thrombosis typically occur after the highest risk for hematoma expansion has past.

### References:

1. Balami JS, Buchan AM. Complications of intracerebral haemorrhage. Lancet Neurol 2012; 11:101.
2. Ogata T, Yasaka M, Wakugawa Y, et al. Deep venous thrombosis after acute intracerebral hemorrhage. J Neurol Sci 2008; 272:83.
3. Christensen MC, Dawson J, Vincent C. Risk of thromboembolic complications after intracerebral hemorrhage according to ethnicity. Adv Ther 2008; 25:831.
4. Gregory PC, Kuhlemeier KV. Prevalence of venous thromboembolism in acute hemorrhagic and thromboembolic stroke. Am J Phys Med Rehabil 2003; 82:364.



# Thyroid Cyst as a Potential Cause for Intractable Hiccup

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## Case description

A 53 years old gentleman attended with a recent history of episodic and short-lived hiccups. There was no evidence of dysphagia or odynophagia, and he was unaware of any dyspepsia or other symptoms or problems of the upper GI tract.

He was usually very well, did not drink alcohol or smoke, and he was not taking any regular medications. The hiccups started about two weeks before and the strength of the hiccups increased from while, and he was concerned that they might lead to vomiting.

Physical examination appeared unremarkable in terms of a general ear, nose and throat and abdominal examination. The patient denied any weight loss and did not look anemic, jaundiced or otherwise unwell.

Symptomatic therapy with chlorpromazine, omeprazole, and metoclopramide has been started and basic investigations including CBC, KFTs, LFTs, and chest X-ray was scheduled to be done next day, and all were normal.

In the following week, the patient returned reporting that the episodes of hiccups increased in terms of their length and intensity. So, urgent gastroscopy was ordered but didn't show significant abnormalities & the patient continued to complain from persistent hiccup, so, baclofen has been added to his drug regimen.

A brain and neck CT was ordered which showed normal brain structures but there was evidence of thyroid cyst in the Left thyroid lobe measuring 4 x 5 cm (Fig. 1).

Thyroid functions tests were ordered and were within normal range, and US guided aspiration has been done which showed colloid material give picture colloid cyst



Figure 1: Neck CT Shows left thyroid lobe cystic lesion.

of the thyroid gland with no signs of malignancy. Following aspiration of the thyroid cyst, there was complete resolution of the patient's symptoms which could be explained by pressure effect of the cyst as a cause of hiccup.

Further follow up of the patient there was no recurrence of his symptoms and also there was no re-accumulation of the cyst.

## Discussion

Thyroid nodules are common, and a large proportion has mixed cystic and solid components. In some studies, a nodule is called a cyst only if it is predominantly cystic on ultrasonography, but in others the term is applied to nodules that are predominantly solid but have small areas of cystic degeneration. Thus, depending upon the criteria used, up to 50 percent of solitary thyroid nodules are cystic. Most recur after fine needle aspiration (FNA). The appropriate evaluation and management of patients with cystic thyroid nodules is an area of controversy.



Cystic thyroid nodules often come to attention when noted by the patient or as an incidental finding during a routine physical examination or radiologic procedure, such as carotid ultrasonography, computed tomography (CT), or magnetic resonance imaging (MRI) of the neck. However, some patients have symptoms, such as neck pain and dysphagia.

The majority of cystic thyroid nodules are benign, degenerating thyroid adenomas. However, thyroid cancers may be cystic.

As with thyroid nodules in general, the diagnostic evaluation of cystic thyroid nodules includes measurement of thyroid-stimulating hormone (TSH), assessment of the sonographic features, and, if indicated, fine needle aspiration (FNA) biopsy.

For patients with mixed cystic-solid nodules without suspicious features on ultrasound, FNA biopsy is indicated if the nodules are 2 cm.

In the presence of suspicious ultrasound features, FNA biopsy is indicated for mixed nodules 1.5 to 2 cm, or if the solid component exceeds 1 to 1.5 cm (0.5 cm for high risk patients).

Purely cystic nodules (no mural component) do not require a diagnostic FNA biopsy.

Aspiration alone may be curative in a minority of patients. If the nodule remains palpable after aspiration, however, treatment depends upon the cytological results obtained from FNA.

#### References:

1. Ali Nawaz Khan, MBBS, FRCS, FRCP, FRCR; Chief Editor: Eugene C Lin, MD. Thyroid Nodule Imaging, Medscape .Updated: Aug 12, 2015.
2. Douglas S Ross, MD, Cystic thyroid nodules, UpToDate 2017, online version.



# Challenging Cases in Pulmonary Medicine

Salah Alshami

*Consultant Internist, Head of the Department of Medicine, European Gaza Hospital.*

## Case 1

A 60 years old female patient was admitted to our hospital at 20/10/2016 where she was complaining of fever, cough, and right sided pleuritic chest pain. The patient was diagnosed as a right sided pneumonia case. Sputum culture for AFB was done and it was negative. She was treated for 10 days and discharged in good general condition.

Second admission was at 8/2/2017, the patient was complaining of severe weight loss, fever, and cough with hemoptysis.

On examination, the patient was looking ill, febrile and cachectic. Chest examination revealed crackles at the right lower zone.

CBC: WBC 15,000; Hb 8.5 g/dL, Plt normal, ESR 100.

KFTs and LFTs were normal.

CXR showed right middle lobe infiltration (Fig.1).

Mantoux test was strongly positive > 15 mm.

Bronchoalveolar lavage (BAL) was done and three samples were sent for culture, which revealed positive test for TB.

Final diagnosis: Active pulmonary TB.

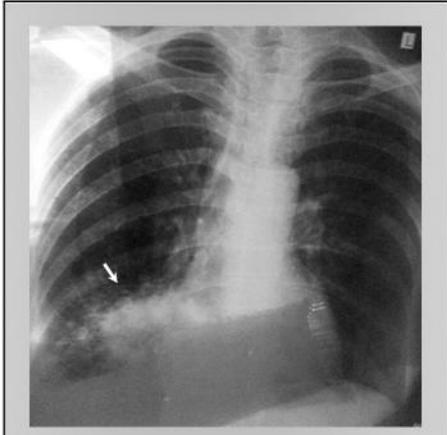


Figure 1: CXR shows right middle lobe infiltration.

## Case 2

A 52 years old female patient, known case of hypertension, presented with three months history of dry cough and night sweating. There was no history of hemoptysis nor weight loss. No history of chest pain nor dyspnea.

Her family history was remarkable that her sister was diagnosed 15 years ago as a case of sarcoidosis.

Physical examination showed good general condition and stable vital signs. No skin rashes.

Chest examination: normal chest inspection and percussion, while chest auscultation revealed bilateral basal crackles.

There was palpable cervical lymph nodes enlargement. Abdomen, heart, and CNS examination were normal.

CBC, ESR, KFTs, and LFTs were within normal ranges.

CXR showed bilateral hilar enlargement suggesting lymphadenopathy. Chest CT confirmed the existence of bilateral hilar lymphadenopathy (Fig.2).



Figure 2: Chest CT shows bilateral hilar lymphadenopathy.

Bronchoscopy was done for biopsy but failed to take it. So, fine needle biopsy done from cervical lymph node, and its biopsy showed non-caseating granuloma.

Final diagnosis: stage three pulmonary sarcoidosis.

The patient was started on prednisone 40 mg/day, and after three weeks of treatment there was dramatic response and improvement of her symptoms and CXR.

## PART 4

# CLINICAL AUDITS

Evaluationg the management of AHF in the Gaza Strip hospitals.

VTE prophylaxis among non-surgical patients admitted to Nasser Medical Complex medical wards.

Management of COPD Exacerbation in Nasser Medical Complex.

Evaluating the antithrombotic therapy for VTE in the Gaza Strip hospitals.

Prescribing of Antibiotics for self-limiting Upper Respiratory Tract Infections in children.

Evaluationg the management of Sepsis & Septic Shock in the Gaza Strip hospitals.

An alarming practice: Antibiotics use in acute Respiratory Tract Infections among adults in Nasser Medical Complex.

Adherence to NICE guidelines of chemotherapy Administration for Colorectal cancer Patients at Al-Rantisi Hospital.

Patients with bronchial asthma, education and its impacts, a clinical audit on medical department at European Gaza Hospital.



المؤتمر العلمي السابع لأمراض الباطنة  
Success does not happen, Success is made



# Evaluating The Management of Acute Heart Failure in the Gaza Strip Hospitals

MohamedRaed Elshami<sup>1</sup>; Enas Alaloul<sup>1</sup>; Reem Dabbour<sup>1</sup>; Mohammed Alkhatib<sup>1</sup>; Tamer Abdalghafoor<sup>1</sup>; Bettina Bottcher<sup>2</sup>

1. Intern Medical Doctor, Palestinian Ministry of Health.

2. Assistant Professor, Faculty of Medicine, Islamic University of Gaza.

## Background

Acute heart failure (AHF) is a life-threatening medical condition requiring urgent evaluation and treatment. This is the first clinical audit to evaluate the adherence of Gaza strip clinicians to international guidelines for management of AHF.

## Hypothesis

Development of local guidelines and adherence to them by clinicians will improve quality of care and ensure patient safety.

## Methodology

This was a retrospective clinical audit conducted from January to December 2016. Two-hundred files of patients admitted to Nasser Hospital (n=74) and Al-Shifaa Hospital (n=126) were reviewed and compared to the European Society of Cardiology (ESC) Guidelines 2016.

## Results

The mean age of our sample was  $66 \pm 13$  years. Fifty percent of patients were females and 96% had co-morbidities including hypertension, DM and heart disease.

Shockingly vital signs were poorly documented (51% temperature, 59% pulse rate, 71.5% respiratory rate and 13% blood pressure) and  $\text{SpO}_2$  in only 69.5%.

From the available data, at time of presentation, 40% had a high blood pressure, 37.7% had an  $\text{SpO}_2 < 90\%$ , 50.5% were anemic and 33% had leukocytosis. ECG, chest x-ray and echocardiography were done in 94.5%, 48.5% and 45%, respectively. Creatinine and urea levels were obtained in 93.5% and 89% with elevated values observed in 45.5% and 96.6%, respectively. Electrolytes ( $\text{Na}^+$  and  $\text{K}^+$ ) were measured in 63% of cases, glucose

level in 88% but only 10% had arterial blood gases measured and 2.5% TSH level. It was found that 21.4% had hypokalemia and 77.3% had hyperglycemia. Cardiac troponins were only done in 5.5% while 66.5% of patients had CKMB measured and BNP level wasn't utilized at all. Although 37.7% of patients had an  $\text{SpO}_2 < 90\%$ , it was surprising that only 12.5% received oxygen therapy. Intravenous furosemide was used in 69% and opiates were only administered to 30%. Vasodilators were given to 46.5% where systolic blood pressure was  $> 90$  mmHg in 89.1% of them. Beta blockers (BB) were used in 57% (70.2% bisoprolol, 29.8% carvedilol). It was noted that BB were given to 2 hypotensive patients, which is not consistent with ESC guidelines. Digoxin 0.25 mg was given in 28.5% of which 53.4% had atrial fibrillation. Venous thromboembolism prophylaxis was administered to 70%.

## Conclusion

The results of this audit reflect the fact that the management of AHF does not comply with the ESC guidelines. This could be attributed to the lack of local guidelines and unawareness of international guidelines. Furthermore, the poor medical record and registry systems cause loss of data and physician orders which in turn causes more deviation from the recommended guidelines. Therefore, there is an urgent need for the development of local guidelines as well as promotion of knowledge of evidence-based practice among clinicians. In addition, the current documentation system should be improved as soon as possible to facilitate the process of evaluating the clinical practice in future.



# Venous Thromboembolism (VTE) Prophylaxis Among Adult Nonsurgical Patients Admitted to NMC Medical Wards

Abdelrahman Alsheikh Ahmad  
*Intern Medical Doctor, Palestinian Ministry of Health.*

## Background

Acutely ill Patients who are treated as inpatient in medical wards are at greater risk of developing VTE and its own complications, due to multiple risk factors that are related to the patients' illness and immobility issues, all of this necessitate development of scoring criteria to accurately categories patients and to define their need for VTE prophylaxis. On the other hand overuse of VTE prophylaxis and its side effects will be minimized.

## Aim / Objective

To define Padua score as a feasible predictor for the need of VTE prophylaxis to minimize unneeded prophylaxis and its undesirable side effects.

## Methodology

Clinical auditing by reviewing medical charts of 100 patients who were admitted to medical and cardiology wards and followed up in a period of 30 days was done based on Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines using Padua Prediction Score risk assessment model, all selected cases were categorized as high and low risk groups for developing VTE.

Identification of patients who received VTE prophylaxis was done, the results underwent statistical analysis using SPSS V23, and relevant variables were identified and analyzed accordingly.

## Results

100 cases (male=44, female=56), mean age was 55.38 y, were reviewed from medical wards (n=70cases) and cardiology department (n=30 cases).

Based on their diagnosis, Lower respiratory tract infection was shown to be the most commonly recorded diagnosis 19%, followed by ACS 17%.

Revision of cases charts revealed that 85% of the total number of cases received prophylaxis.

Presence of multiple risk factors necessitate administration of VTE prophylaxis, immobility (61%) was shown to be the most determinant for the need of prophylaxis followed by acute infection (57%).

Heparin 5000 IU q 12 hours was shown to be the most commonly used regimen of prophylaxis (71%), patients with a clinical diagnosis of ACS(n=17) and Arrhythmias(n=5) were candidate of therapeutic systemic anticoagulation with Enoxaparin 1 mg/kg q 12 hrs.

Statistical analysis of all cases based on Padua score was done and total score of equal or more than 4 points was defined as cut-off point to determine the need for prophylaxis unless contraindicated, 85% of the total number of cases received prophylaxis in which 58% of cases met the criteria for prophylaxis, 26% did not meet the criteria and 1% of cases met the criteria but it was contraindicated to receive prophylaxis due to UGIB, p value was statistically significant ( $p=.013$ ). 15% of cases did not meet the criteria for prophylaxis so they did not receive it.

## Conclusion

The use of Padua scoring system was highly recommended and adapted via the American College Of Chest Physicians in its recently published guideline owing to its high accuracy and safety in prevention of VTE and to minimize overuse of VTE prophylaxis among patients who are not in need for prophylaxis.



# Management of COPD Exacerbation

## A Clinical Audit at Nasser Medical Complex

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2. Assistant Professor, Faculty of Medicine, Islamic University of Gaza.

3. Consultant Internist, Head of the Department of Medicine, Nasser Medical Complex.

### Background

The frequency and severity of COPD exacerbations are the most important measure determining overall prognosis in COPD. The management approach of these exacerbations can affect patient's progress and health related life quality.

Recently, the approach to COPD exacerbations changed dramatically. Good evidence now supports the use of corticosteroids, antibiotics, and bronchodilators.

### Aim / Objective

To improve the care received by COPD exacerbation's patients at Nasser Medical Complex, by assessing the current one and comparing it to standards based on the Global Initiative for Chronic Obstructive Lung Disease Guideline (2015).

### Methodology

The data was collected prospectively in the emergency room (ER) of Al-Nasr Pediatric Hospital, Gaza from 2/3/2017 until 17/4/2017.

As no guideline for management of URTIs are available at Al-Nasr Hospital, the standard for this audit was the NICE guideline CG69 (July 2008).

### Results

In total, 55 patients were identified for this audit. The mean age was 66.4 years and 98.2% were male. All patients received inhaled bronchodilators, of these 64.4% received short acting beta-agonists (SABA), 78% short-acting muscarinic agonists (SAMA), 23.6% long-acting muscarinic agonists (LAMA),

1.8% long-acting beta-agonists (LABA) and 40% both SABA and SAMA.

A total of 96.4% patients received systemic corticosteroids. 78.2% of patients took >40mg Prednisolone daily. 21.8% received Prednisolone for 5 days, while the majority received a shorter course. Other treatments included 92.7% had oxygen, 100% antibiotics, 5.5% antiviral medication and 3.6% theophylline. No patient received chest physiotherapy.

### Conclusion

Overall adherence to guidelines was moderately good. All patients received antibiotics and 94.7% oxygen, which are both recommended for all patients. Chest physiotherapy was not advocated, which is known to be ineffective for this indication. Less useful therapies were also rarely prescribed.

However, more patients received SAMA than SABA, although SABA are more effective and therefore the first line treatment for COPD exacerbation.

96.4% of patients received systemic corticosteroids. However, the mostly prescribed dose (75mg Prednisolone) exceeds the recommendation, which is 40mg for 5 days.

Generally, awareness and adherence to clinical guidelines has to be improved. This goes hand in hand with fostering evidence-based medicine. As other audit projects, this one also found documentation to be of a very poor standard. This is in urgent need of improvement across Gaza, in order to foster a meaningful audit culture.



# Evaluating The Antithrombotic Therapy for Venous Thromboembolism (VTE) in the Gaza-Strip Hospitals

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2. Teaching assistant, Faculty of Medicine, Islamic University of Gaza.

3. Assistant Professor, Faculty of Medicine, Islamic University of Gaza.

## Background

Since venous thromboembolism (VTE) disease is a life-threatening medical condition requiring urgent evaluation and treatment, this is the first clinical audit to evaluate adherence of clinicians to international guidelines for antithrombotic therapy for VTE disease.

## Methodology

This was a retrospective clinical audit conducted from January to December 2016. Files of patients admitted to European Gaza Hospital and Al-Shifaa Hospital were reviewed and compared to the standard of the American College of Chest Physicians (ACCP) Guidelines 2016.

## Results

In total, 95 cases were identified. The mean age was 44 ±17 years and that of duration of hospitalization was 6 ± 3 days. Interestingly, 43% of patients were males and half of the patients (n=46) had no comorbidities.

We were able to identify 10 different categories of VTE. Proximal deep vein thrombosis (DVT) was the most frequent category (46.3%). Over 80% of patients with proximal DVT were treated with extended therapy (no scheduled stop date) using vitamin K antagonists (VKA). Half of these patients were not switched to aspirin after 3 months of anticoagulation therapy as indicated in the ACCP guidelines and none of them was tested for D-dimer level after 1 month of stopping the anticoagulant. Recurrent VTE on VKA or novel oral anticoagulants (NOAC) was the second most frequent category with 20% (n=19). Surprisingly, 18 of these 19 cases were continued on extended therapy using a higher dose of

VKA rather than being switched, even temporarily, to low molecular weight heparin (LMWH) as suggested by ACCP guidelines while only 1 case was switched. Cancer-associated thrombosis was the third most common category (6.3%). All patients in this category were treated with extended therapy using VKA rather than LMWH as suggested. Other categories identified were similar in terms of deviating from the guidelines and choosing the anticoagulant.

Among all cases who received extended therapy, the choice of anticoagulant was not changed after the first 3 months in 98.6% of cases, which is suggested. Only 48.4% were reassessed for continuing use of treatment at periodic intervals. However, 3.2% used compression stockings, which are not suggested.

## Conclusion

The results of this audit reflect the fact that the antithrombotic therapy for VTE does not comply with the ACCP guidelines. This could be attributed to the shortage of NOAC and unaffordability of LMWH at governmental hospitals. Another reason is the lack of local guidelines and awareness of the international guidelines. Furthermore, the poor documentation system causes loss of data and physician orders which in turn causes more deviation from guidelines. Therefore, there is an urgent need for the development of local guidelines as well as promotion of knowledge of evidence-based practice among clinicians. In addition, an improvement of the current documentation system should be implemented as soon as possible to facilitate the process of evaluating the clinical practice in future.



# Prescribing of Antibiotics for Self-limiting URTIs in Children

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4. Teaching assistant, Faculty of Medicine, Islamic University of Gaza.

## Background

Upper respiratory tract infections (URTIs) are common in children. Despite the fact that URTIs in children are usually due to viral infection, the inappropriate use of antibiotics is a worldwide problem. This is contributing to the increasing antibiotic resistance rates. According to the latest WHO report "Antimicrobial resistance: global report on surveillance 2014".

## Aim / Objective

The aim of this audit is to highlight the inappropriate use of antibiotics and to reduce the unnecessary use of antibiotics

## Methodology

The data was collected prospectively in the emergency room (ER) of AlNasr Pediatric Hospital, Gaza from 2/3/2017 until 17/4/2017.

As no guideline for management of URTIs are available at Al-Nasr Hospital, the standard for this audit was the NICE guideline CG69 (July 2008).

## Results

The audit included 46 children, 20 (43.5%) were given no antibiotics and 26 (56.5%) were given immediate antibiotics, while no patient benefited from delayed prescribing.

From the patients who took immediate antibiotics, eight (30.8%) had three centor criteria, which is the criteria for using antibiotics. However, the majority of patients were given antibiotics immediately, 18 (69.2%) had less than three centor criteria, which indicates no

need for antibiotics. Moreover, all patient were reported to be in good to moderate general conditions.

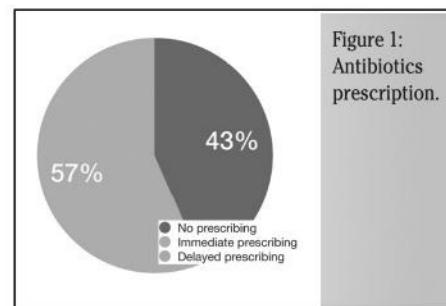


Figure 1:  
Antibiotics  
prescription.

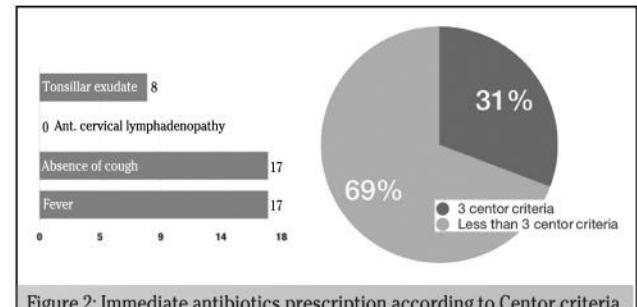


Figure 2: Immediate antibiotics prescription according to Centor criteria.

## Conclusion

This audit shows a high percentage of inappropriate antibiotics use. Therefore, it is highly recommended to create a clear guideline for management of URTIs. Furthermore, the use of a delayed prescribing strategy can materially reduce the inappropriate antibiotic use. Finally, ongoing patient education and awareness campaigns, highlighting the potential harm of unnecessary use of antibiotics are necessary in order to address misplaced patient expectations.



# Evaluating The Management of Sepsis and Septic Shock in the Gaza-Strip Hospitals

Enas F. Alaloul<sup>1</sup>; Mohamed Raed S. Elshami<sup>1</sup>; Heba S. Baraka<sup>1</sup>; Esraa A. Saleh<sup>2</sup>; Alaa Eldeen Almassry<sup>3</sup>; Bettina Bottcher<sup>4</sup>  
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3. Consultant Internist, Head of the Department of Medicine, Nasser Medical Complex  
4. Assistant Professor, Faculty of Medicine, Islamic University of Gaza.*

## Background

Sepsis and septic shock are major healthcare problems, affecting millions of people around the world each year. Since early identification and appropriate management in the initial hours after sepsis develops improves outcomes, adherence to clinical guidelines is very important. This audit assesses the guideline adherence by physicians in the Gaza-Strip (GS) for management of sepsis and septic shock.

## Methodology

This was a prospective clinical audit conducted in the medical departments of three of the GS hospitals (European Gaza Hospital, Nasser Medical Complex and Alshifa Medical Complex) from January to March 2017 according to surviving sepsis campaign (SSC) guidelines for management of sepsis and septic shock (2017).

## Results

In total, 70 cases were identified. The mean age was  $75 \pm 12$  years and the mean duration of hospitalization was  $7 \pm 6$  days. Seventy percent were females and 88.6% of patients had co-morbidities with 19.4% having all of hypertension, diabetes and past stroke. It was noted that 25.7% had a breach of skin integrity as a risk factor for sepsis.

Starting intravenous (IV) antimicrobial therapy within the first hour was achieved in 89% of cases; however, requesting blood cultures was not done at all. In contrast, 4.3% had their blood cultures withdrawn within the first 3 hours and 28.6% received 30ml/kg crystalloid fluids. A specific anatomical diagnosis to control infection in the first 12 hours was made in 71.4%.

Both of administering initial empiric therapy and daily reassessment of antimicrobial regimen were done in all cases. Combination empirical therapy was given to 72.9%. About 54% received therapy for longer than 10 days. Only 8.6% had selective oral decontamination using nystatin. Surprisingly, 18.6% did not receive crystalloids for resuscitation which were indicated. Only 2 cases (2.8%) had vasopressors, of which one was administered dopamine which should be avoided. Corticosteroids were administered in the absence of shock in 5.7%. A target of 180 mg/dL for blood glucose level was achieved in 72.9%, but before obtaining this target, its value was monitored every 4 hours only in 8.6%. Stress ulcer and deep vein thrombosis prophylaxis were given in 92.9% and 78.5%, respectively.

## Conclusion

The results of this audit reflect the fact that the current practice for management of sepsis and septic shock doesn't comply with the SSC guidelines. This could be explained by the lack of local guidelines and poor knowledge of international standards. Furthermore, the shortage of some laboratory tests (blood cultures and lactate level) may affect the clinical practice and the overall adherence to guidelines. Despite the fact that management of sepsis should be guided by lactate level, it was not done due to its unavailability in the GS hospitals.

Therefore, there is an urgent need for developing local guidelines as well as promoting awareness and knowledge of evidence-based practice among clinicians and making key tests available to clinicians in the GS.



# An Alarming Practice: Antibiotics Use in Acute Respiratory Tract Infections Among Adults in Nasser Medical Complex

Maha Alfaqawi<sup>1</sup>; Yousef Abuowda<sup>1</sup>; Alaa Eldeen Almassry<sup>2</sup>; Bettina Böttcher<sup>3</sup>

1. Intern-ship Medical Doctor, Palestinian Ministry of Health.

2. Consultant internist, Head of the Department of Medicine, Nasser Medical Complex.

3. Assistant Professor, Faculty of Medicine, Islamic University of Gaza.

## Background

During the last decade, antimicrobial utilization increased by 36% globally. As a result, there has been a marked increase in multidrug-resistant pathogens associated with poor patient outcomes, motivating the WHO of warning about the post antibiotic era. A time in the near future, when antibiotics will not be effective. ARTIs are among the common complaints in emergency departments and antimicrobial overprescribing has been well established, for fear of further complications or patients' dissatisfaction.

## Aim / Objective

To improve the care received by ARTI patients by assessing the current one and comparing it with the best practice.

## Methodology

The sample was selected randomly and retrospectively from Nasser Hospital ED, during winter 2017.

At the same time, all practitioners were asked to complete a questionnaire regarding their practice. In addition to this, another 40 patients were also asked about their use of antibiotics, as well as their beliefs around this use.

## Results

A total of 53 cases were included. The age was 32.1+/-64 years. 9.4% of cases had chronic illnesses, (56.6%) had cough, (41.5%) had sore throat, (39.6%) had malaise, (37.7%) had fever, (32%) had headache, (20.7%) had runny nose, and (5.6%) had purulent nasal discharge. Out of 53 cases, only five cases (10%) had a CBC, while CXRs were done in 11.3% of cases. From these, 66.6%

were normal and 33.3% had no recorded result. 41.5% of cases had a throat examination, 81.8% were normal. The diagnosis was recorded in only 51% of cases with acute bronchitis in 44.4%, acute tonsillitis in 22.2%, URTI in 18.5%, and acute sinusitis in 14.8%. Although over 90% of these illnesses are viral in cause, 86.7% of cases had antibiotics prescribed for 3.8+/-7 days. Patient communication done in 34% of cases.

The assessment of patient believes and use of antibiotics involved 40 patients. 82% of these suffer one episode of URTI per year. 56% use antibiotics for every episode, believing that antibiotic use is essential for a good and speedy recovery. Only 24% believed that antibiotics have no importance in the treatment of URTI. 34% of patients justified their antibiotics use by stating that antibiotics lead to faster relief of URTI symptoms, 42% added their fear of complications. These patient beliefs are based mainly on social culture (77%), and only (21%) follow medical sources.

However, 87% of patients stated that they would stop this overuse of antibiotics if they received information and education on more useful alternatives in the treatment of URTI.

## Conclusion

Antibiotics prescribed in the Nasser Hospital ER have far-reaching consequences downstream. Both physicians and patients are unaware of recent evidence of antibiotics use in practice. Inherent to the fast nature of ER, multiple challenges exist. A collective and multi-disciplinary effort Initiating by common infections like URTI and the development of a local, evidence based guideline will expedite improvements in patient care.



# Adherence to NICE Guidelines of Chemotherapy Administration for Colorectal Cancer Patients at Al-Rantisi Hospital

Batool Al-mahallawi<sup>1</sup>; Nour Hussein<sup>1</sup>; Noor Matar<sup>1</sup>; Walaa Lubbad<sup>1</sup>; Khamis Elessi<sup>2</sup>; Hany Ferwanah<sup>2</sup>; Bettina Boucher<sup>3</sup>; Mohammed Nabhan<sup>4</sup>; Hassan Diab<sup>2</sup>

1. Medical student, Faculty of Medicine, Islamic University of Gaza.

2. Teaching assistant, Faculty of Medicine, Islamic University of Gaza.

3. Assistant Professor, Faculty of Medicine, Islamic University of Gaza.

4. Registrar of Radiology, European Gaza Hospital.

## Background

Colorectal cancer is one of the most common cancers worldwide after breast and lung cancer, most commonly are adenocarcinoma. Occurrence of colorectal cancer is equally in both males and females and strongly related to age, with almost three quarters of cases occurring in people aged 65 or over.

Colorectal cancer is the second most common cause of cancer death in the Gaza Strip according to MOH reports with increasing in the number of deaths. On the other hand, around half of people diagnosed with colorectal cancer survive for at least 5 years after diagnosis.

## Aim / Objective

This audit aims to improve the care received by colorectal cancer patients by check if locally advanced CRC patients received preoperative chemotherapy and adjuvant chemotherapy after surgery. In addition, to make sure that if the first line chemotherapy drug choice depends on side effects.

## Methodology

This audit was conducted at A-Rantisi hospital. 50 cases of CRC patients were involved retrospectively and randomly.

## Results

In total, 50 patients with colorectal cancer were identified for this audit, Histopathological examination and CT was offered to all them.

Preoperative chemotherapy was offered to only 8.82% of patients with locally advanced colorectal cancer and 100% of patients with stage III CRC received adjuvant chemotherapy.

Zero % of Metastatic Colorectal Cancer patients association with diabetes started with FOLFORI instead of FOLFOX.

75% of metastatic colorectal cancer patients were not prescribed Avastin (bevacizumab) in combination with FOLFOX or XELOX.

## Conclusion

Generally, there was 94% adherence to NICE guidelines in local disease, while it is 68.7% for metastatic cancer.

## Recommendations

1. Preoperative chemotherapy should be provided to all patients with high-risk local disease.
2. The drug of choice for metastatic patients should be given in view of the whole patient profile.
3. Developing a system dedicated to recording all patients medical information (history, Allergies, Tests, Operations, treatments) as a part of our improvement plan.



# Patients with Bronchial Asthma Education & Its Impacts

A Clinical Audit on Medical Department at European Gaza Hospital

Ahmed Alhitta

*Registrar of Internal Medicine, European Gaza Hospital.*

## Background

Asthma is a common disease. With increasing prevalence, hospitalizations, and fatal exacerbations over the past 20 years. This results in high costs of hospital admissions, drug use and lost working days. This audit assesses the patient education and its impact on disease management.

Regarding disease control, 80% have daily symptoms, 40% have symptoms at 4 or more nights a week. Nevertheless, 56% of patients were adherent to the medications they were prescribed and 71% rated their disease control as "poorly controlled" or "not controlled at all".

## Aim / Objective

To assess the quality of patient education regarding bronchial asthma at the European Gaza Hospital.

## Conclusion

Patients with bronchial asthma occupy a substantial workload. The disease control depends mainly on patient's recognition of the disease nature, as well as the proper use of the medications. This audit addresses the patient education and its impact on disease management.

Although most of the sample patients were educated about the disease nature and medication use at the time of diagnosis, only few of them demonstrated proper inhaler technique.

Most of the patients did not reach adequate control of their disease. Nevertheless, more than half of them were not adherent to the medications they were prescribed.

## Results

A total of 30 patients were included, 90% of them had received education about the disease nature and precipitants, 66% had received education about the inhaler use and 0% were offered written action plan.

More than 80% of the patients were treated by inhalers. Only 17% of them demonstrated proper use of their inhaler.

“

Medicine is a science of uncertainty,  
and an art of probability.

”

Dr. Williams Osler

## PART 5

# CONFERENCE WORKSHOPS

Sepsis workshop.

Antibiotics Switch Therapy Workshop.



المؤتمر العلمي السابع لأمراض الباطنة  
Success does not happen, Success is made



# Sepsis Workshop

Date : 22/07/2017 | Time: 10:30-13:30 | Place : Almashtal Hotel.  
 Modulator : Rami Salute, Consultant Internist, European Gaza Hospital.

## Introduction

Sepsis is life-threatening organ dysfunction caused by a dysregulated host response to infection. Sepsis and septic shock are major healthcare problems, affecting millions of people around the world each year, and killing as many as one in four (and often more). Similar to polytrauma, acute myocardial infarction, or stroke, early identification and appropriate management in the initial hours after sepsis improves outcomes.

This workshop has been held during the conference days and it was a good opportunity to discuss the latest Guideline of sepsis management 2017 as an update to the 2012 Guideline and try to make a proposal for national protocol for sepsis management in our hospitals.

The workshop discussed the new definition and recognition of sepsis and made a closed focus on the SOFA (Table 1) and qSOFA (Table 2) score as a useful tool for screening of hospitalized patients for the possibility of sepsis especially critically ill patients admitted to ICU.

Respiratory Rate >= 22/min
Altered mentation
Systolic Blood Pressure <= 100 mmHg

Table 2 : The Quick Sequential Organ Failure Assessment (qSOFA) score.

Also It reviewed the major changes of 2017 Guideline regarding management of sepsis like fluids resuscitation, antibiotics administration, vasopressors, steroids use, glucose management, and ventilation support.

System	Score				
	0	1	2	3	4
Respiration					
PaO <sub>2</sub> /FiO <sub>2</sub> (mmHg)	>=400	<400	<300	<200 with respiratory support	<100 with respiratory support
Coagulation					
Platelets (*10 <sup>3</sup> /µL)	>=150	<150	<100	<50	<20
Liver					
Bilirubin (mg/dL)	<1.2	1.2-1.9	2.0-5.9	6.0-11.9	>12
Cardiovascular					
	MAP >=70 mmHg	MAP <70 mmHg	Dopamine <5 or dobutamine (any dose)	Dopamine 5.1-15 or epinephrine <=0.1 or norepinephrine <=0.1	Dopamine >15 or epinephrine >0.1 or norepinephrine >0.1
CNS					
GCS score	15	13-14	10-12	6-9	<6
Renal					
Creatinine (mg/dL)	<1.2	1.2-1.9	2.0-3.4	3.5-4.9	>5
Urine output (mL/d)				<500	<200

Table 1 : The Sequential Organ Failure Assessment (SOFA) score.



The workshop agenda included the following titles:

1. Epidemiology and early recognition of sepsis.  
(presented by Dr. Alaa Alshaer).
2. Clinical presentation, diagnosis and management.  
(presented by Dr. Rami Salute).
3. AKI in sepsis: diagnosis and management.  
(presented by Dr. Riyad Barbakh).
4. Cardio-respiratory support in sepsis.  
(presented by Dr. Abedrabo Alattrash).
5. Medications shortage in management of sepsis in Gaza strip.  
(presented by Dr. Hashem Mansour).

The attendees were from different fields of medicine including Internists, ICU doctors, ER doctors, and Pharmacists from local hospitals.

### **Major Recommendations:**

#### 1) Definitions and recognition of Sepsis:

2017 Guideline: Redefine sepsis as agreed upon by the Society of Critical Care Medicine (SCCM) and the European Society of Intensive Care Medicine (ESICM) as the Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3).

- Sepsis: is a “life-threatening organ dysfunction caused by a dysregulated host response to infection.” End organ damage is identified as an acute change in total Sequential [Sepsis-related] Organ Failure Assessment score (SOFA)  $\geq 2$ .
- Septic shock: A subset of sepsis “in which circulatory, cellular, and metabolic abnormalities are associated with a greater risk of mortality than with sepsis alone. These patients can be clinically identified by a vasopressor requirement to maintain a MAP  $>= 65$  mmHg and serum lactate  $> 2$  mmol/L in the absence of hypovolemia”.
- “Severe sepsis” category was deemed to be superfluous and is no longer recommended for clinical use.
- SIRS criteria : No longer considered in defining sepsis and septic shock.

Instead, adult patients outside of the ICU with suspected infection are identified as being at heightened risk of mortality if they have quick SOFA (qSOFA) score meeting  $\geq 2$ .

#### 2) Management:

##### 1- Fluid Resuscitation:

###### **Initial fluid resuscitation**

- Unchanged from 2012 guidelines.
- 30 ml/kg of IV crystalloid fluid (normal saline or balanced salt solution) within the first 3 hours of sepsis presentation.
- Patients may require greater volumes of fluid as guided by frequent reassessment of volume responsiveness.
- Consider 4% albumin in refractory hypotension.
- Static fluid status measurements (i.e. Central Venous Pressure):

\* No longer recommended as lone guiding principles as they carry limited value for measuring fluid responsiveness.

\* 2017 guidelines recommend the use of dynamic variables over static variables to predict fluid responsiveness (i.e. passive leg raise, pulse pressure variation, stroke volume variation).

- Weak suggestion for resuscitation to normal lactate.
- Use clinical judgement. For instance, if patient has adequate BP and urine output and is down-titrating vaso-pressors, but has a persistently elevated lactate, additional fluid carries the risk of over-resuscitation.

#### 2- Antibiotics:

- First priority is source control and obtaining cultures. Cultures should be obtained prior to administration of antibiotics when feasible.

- Give antibiotics within 1 hour of identification of septic shock.

##### **- Antibiotic Regimen:**

1- Begin with broad spectrum coverage when the potential pathogen is not immediately obvious.

2- Narrow once pathogen identification and sensitivities are established.

##### **3- Vancomycin:**

\* Goal to achieve a trough of 15-20mg/L.

\* IV loading dose of 25-30mg/kg in septic shock.

4- For  $\beta$ -lactams, achieve higher Time-Dependent Killing ( $T > MIC$ ) by increasing frequency of dosing.

5- Fluoroquinolones should be given at their optimal nontoxic dose.



**6- Aminoglycosides** should be dosed using once-daily dosing.

\* Average duration of antibiotics therapy: 7-10 days is recommended in most patients.

\* Consider using procalcitonin to guide de-escalation of antibiotics.

### **3- Vasopressors:**

- Useful in patients who remain hypotensive despite adequate fluid resuscitation.

- Target mean arterial pressure (MAP) of 65mmHg.

- First line vasopressor: norepinephrine.

- Dose: start 2-12 mcg/min (no true maximum dose).

- Administer vasopressin (up to 0.03) and epinephrine as add-on therapies if not at target MAP or to decrease norepinephrine dose.

- Consider inotropes (Dobutamin) in low cardiac output states i.e. septic cardiomyopathy, which can be common in these patients.

### **4- Steroids:**

- Indicated for patients with septic shock in which fluids and vasopressors fail to achieve hemodynamic stability.

- Low doses is recommended (200 mg daily of Hydrocortisone).

### **5- Transfusion:**

- Indicated in majority of patients only when hemoglobin <7.0 g/dl.

**6- Target glucose: <180mg/dL.**

**7- Bicarbonate therapy:**

- Not recommended when pH>7.15.

**8-Mechanical Ventilation:** (unchanged from 2012 guidelines):

- Lung Protective Ventilation Strategy.

- Target a tidal volume of 6 mL/kg of ideal body weight.

- Plateau pressure of <30 cmH<sub>2</sub>O.

- PEEP: increase with FiO<sub>2</sub> as per ARDS protocol.

- Recommend prone over supine position in patients with sepsis-induced ARDS and Pa/FiO<sub>2</sub> ratio <150.

- Recommendation against high frequency oscillatory ventilation/lung protective ventilation.

### **References:**

1. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016. Society of Critical Care Medicine Journal, March 2017 Volume 45 Number 3.
2. Jean Gelinas, MD, Keith R. Walley, MD, Beyond the Golden Hours Caring for Septic Patients After the Initial Resuscitation, Clin Chest Med, doi.org/10.1016/j.ccm.2016.01.006.
3. Paul D. Weyker, MD , Xosé L. Pérez, MD,Kathleen D. Liu, MD, PhD, MAS, Management of Acute Kidney Injury and Acid-Base Balance in the Septic Patient, Clin Chest Med-(2016) ,doi.org/10.1016/j.ccm.2016.01.012
4. Matthew W. Semler, MD, Todd W. Rice, MD, MSc, Sepsis Resuscitation Fluid Choice and Dose, Clin Chest Med-2016-, doi.org/10.1016/j.ccm.2016.01.007.



# Antibiotics Switch Therapy

## Workshop

Date : 23/07/2017 | Time: 10:30-13:30 | Place : Almashtal Hotel.

Modulator : Iyad Shaqura, pharmacist, Nasser Medical Complex.

### Introduction

Majority of the patients admitted to a hospital with severe infections are initially started with intravenous medications. Short intravenous course of therapy for 2-3 days followed by oral medications for the remainder of the course is found to be beneficial to many patients. This switch over from intravenous to oral therapy is widely practiced in the case of antibiotics in many developed countries. Even though intravenous to oral therapy conversion is inappropriate for a patient who is critically ill or who has inability to absorb oral medications, every hospital will have a certain number of patients who are eligible for switch over from intravenous to oral therapy. Among the various routes of administration of medications, oral administration is considered to be the most acceptable and economical method of administration. The main obstacle limiting intravenous to oral conversion is the belief that oral medications do not achieve the same bioavailability as that of intravenous medications and that the same agent must be used both intravenously and orally. The advent of newer, more potent or broad spectrum oral agents that achieve higher and more consistent serum and tissue concentration has paved the way for the popularity of intravenous to oral medication conversion.

So, it was important to have a focused review of antibiotics switch therapy principles, methods and try to share our local experience in Nasser Medical Complex regarding this issue with our colleagues in other hospitals here in Gaza strip.

This workshop has been held on the 3rd day of the conference and cover the following headlines:

1. Principles of antibiotics use:  
presented by Dr. Alaa Almassry.
2. Principles of antibiotics switch therapy:  
presented by Dr. Rami Aljbour.
3. Role of clinical pharmacist in ABs switch therapy:  
presented by Dr. Samah Kollab.
4. Nasser Medical Complex experience:  
presented by Dr. Iyad Shaqoura.

### Hot topics and recommendations

#### A) Ten key points for the appropriate use of antibiotics in hospitalized patients.

1. Get appropriate microbiological samples before antibiotic administration and carefully interpret the results: in the absence of clinical signs of infection, colonization rarely requires antimicrobial treatment.
2. Avoid the use of antibiotics to 'treat' fever: investigate the root cause of fever and treat only significant bacterial infections.
3. When indicated, start empirical antibiotic treatment after taking cultures, tailoring it to the site of infection, risk factors for multidrug-resistant bacteria, and the local microbiology and susceptibility patterns.
4. Prescribe drugs at their optimal dose, mode of administration and for the appropriate length of time, adapted to each clinical situation & patient characteristics.
5. Use antibiotic combinations only in cases where the current evidence suggests some benefit.
6. When possible, avoid antibiotics with a higher likelihood of promoting drug resistance or hospital-acquired infections, or use them only as a last resort.
7. Drain the infected foci quickly and remove all potentially or proven infected devices: control the infection source.



8. Always try to de-escalate/streamline antibiotic treatment according to the clinical situation and the microbiological results; switch to the oral route as soon as possible.
9. Stop antibiotics as soon as a significant bacterial infection is unlikely.
10. Do not work alone: set up local teams with an infectious diseases specialist, clinical microbiologist, hospital pharmacist, infection control practitioner or hospital epidemiologist, and comply with hospital antibiotic policies and guidelines.

#### **B) Advantages of oral over IV route:**

- 1- Reduced risk of cannula related infections.
- 2- No risk of thrombophlebitis.
- 3- Less expensive than IV therapy.
- 4- Reduction in the hidden costs.
- 5- Earlier discharge.

#### **C) Types of IV to oral conversions:**

- **Sequential therapy:** It refers to the act of replacing a parenteral version of a medication with its oral counterpart of the same compound. For instance, conversion from IV ciprofloxacin to oral ciprofloxacin.

- **Switch therapy:** It describes the conversion of an IV medication to a PO equivalent; within the same class and has the same level of potency, but of a different compound. For example, switch over from inj. ceftriaxone 1 g BID to tab. cefixime 200 mg BID.

- **Step down therapy:** It refers to the conversion from an injectable medication to an oral agent in another class or to a different medication within the same class where the frequency, dose, and the spectrum of activity may not be exactly the same. For example, conversion of inj. cefotaxime 1 g to tab. ciprofloxacin 500 mg.

#### **D) Practical approaches for conversion of a patient from IV to oral therapy:**

Establishment of an IV to oral switch over program at a hospital is the stepping stone toward the successful conversion of a patient from IV to oral therapy. It is the sole responsibility of a clinical pharmacist to establish such a guideline with the approval of the Pharmacy and Therapeutics committee of the hospital and ensure that the conversion is done in tune with the guideline.

- First, a clinical pharmacist should identify patients who receive IV medications and also recognize the

Inclusion criteria:	Exclusion criteria:
<p><b>1</b> Patient is able to eat their regular or modified diet or receiving enteral nutrition by oral, gastric or other appropriate enteral route.</p> <p><b>2</b> Patient receives other scheduled oral medications.</p> <p><b>3</b> For patients who receive antibiotics, signs and symptoms of infection resolved or improving (WBC decreasing toward normal range, improving chest X-ray findings, temperature less than 100°F for at least 24-48 hours and respiratory rate more than 20 breaths/min.</p> <p><b>4</b> Patient has functional gastrointestinal tract (tolerating at least 1 liter/day of oral fluids or 40 ml/hour of enteral nutrition).</p> <p><b>5</b> An appropriate oral dosage form of prescribed drug is available.</p> <p><b>6</b> Absorption and bioavailability of oral counterpart is almost comparable to that of parenteral form.</p>	<p><b>1</b> Patients with unreliable response to oral medications (severe nausea or vomiting).</p> <p><b>2</b> Unable to swallow or unconscious.</p> <p><b>3</b> Strict (nothing per oral) for a procedure.</p> <p><b>4</b> GI obstruction, malabsorption, active GI bleeding, paralytic ileus or severe diarrhea.</p> <p><b>5</b> Unresponsive to previous oral therapy.</p> <p><b>6</b> Patients whose disease state that does not support oral therapy (meningitis, infective endocarditis, infection of a prosthetic device, osteomyelitis, sepsis, severe cellulitis, bronchiectasis, pneumonia with AIDS).</p> <p><b>7</b> Documented pseudomonal infection and/or on IV antibiotic for &lt;24 hours.</p> <p><b>8</b> Candidemia treated less than 7 days.</p> <p><b>9</b> Seizure and risk of aspiration.</p> <p><b>10</b> Hypotension or shock.</p> <p><b>11</b> Patient refuses oral medication as mentioned in charts.</p> <p><b>12</b> Immunocompromized patients (febrile neutropenia, on cancer chemotherapy, posttransplant, functional asplenia).</p>

Figure 1: Inclusion and exclusion criteria for AST (Antibiotic Switch Therapy).



Drugs	IV to PO conversion	
	IV dose	PO dose
Ciprofloxacin*	200 mg q12h (every 12 hours)	500 mg q12h
Doxycycline	100-200 mg q12h	100-200 mg q12h
Esomeprazole	20-40 mg q24h	20-40 mg q24h
Fluconazole	100-200 mg q24h	100-200 mg q24h
Hydrocortisone	100 mg q24h	50 mg q8h
Ketorolac	30 mg q24h	20 mg q24h
Levetiracetam	500 mg q12h	500 mg q12h
Levofloxacin*	500 mg q24h	500 mg q24h
Linezolid	600 mg q12h	600 mg q12h
Metronidazole	500 mg q12h	500 mg q12h
Minocycline	200 mg q12h	200 mg q12h
Moxifloxacin*	400 mg q24h	400 mg q24h
Phenytoin	100 mg q8h	100 mg q8h
Rifampicin	600 mg q24h	600 mg q24h
Voriconazole	200 mg q24h	200 mg q24h

Figure 2: Examples of drugs with excellent bioavailability (>90%) eligible for IV to oral switch over therapy.

Drugs	IV to PO conversion	
	IV dose	PO dose
Ampicillin	1gm q6h	250-500 mg q6h
Azithromycin	500 mg q24h	250-500 mg q24h
Cefazolin	1 gm q8h	Tab. cephalexin 500 mg q6h
Cefotaxime	1 gm q12h	Tab. ciprofloxacin 500-750 mg q12h
Ceftazidime	1-2 g q8h	Tab.ciprofloxacin 500-750 mg q12h
Cimetidine	300-600 mg q12h	200 mg q12h
Cefuroxime	500-750 gm q8h	Tab. cefuroxime axetil 250-500 mg q12h
Clindamycin	300-600 mg q8h	300-450 mg q6h
Digoxin	0.1-0.4 mg q24h	0.125-0.5 mg q24h
Erythromycin	500-1000 mg q6h	500 mg q6h
Pantoprazole	40 mg q24h	40 mg q24h

Figure 3: Examples of drugs with good bioavailability (60-90%) eligible for IV to oral switch over therapy.

need for IV medication in those patients and check for the indication.

- Second, regular follow up is needed to check whether the patient's clinical status (WBC, vital signs, culture report, patient's physical and mental condition, etc.) is improving or not. If the patient is eligible for conversion (Fig.1), check whether the conversion was done.
- Inform the physician about the patients who are eligible for conversion but not converted within the appropriate time.
- Make suitable recommendations for the selection of an oral medication for conversion examples are present in (Fig.2) and (Fig.3).
- Review the feedback of the physicians.
- Monitor the patient's clinical progress after the switch over and convert the patient back to parenteral medication, if required.
- It is always advisable to verify the knowledge and beliefs of physicians regarding the guideline for switch over from IV to oral therapy. A data collection tool like questionnaires can be used for the same.

#### References:

1. Jissa Maria Cyriac , Emmanuel James. Switch over from intravenous to oral therapy: A concise overview. Journal of Pharmacology and Pharmacotherapeutics | April-June 2014 | Vol 5 | Issue 2
2. Ten key points for the appropriate use of antibiotics in hospitalized patients: a consensus from the Antimicrobial Stewardship and Resistance Working Groups of the International Society of Chemotherapy. International Journal of Antimicrobial Agents 48 (2016) 239–246.
3. Katherine Dunn, Audrey O' Reilly, Bernard Silke, Thomas Rogers , Colm Bergin. Implementing a pharmacist-led sequential antimicrobial therapy strategy: a controlled before-and-after study. Int J Clin Pharm (2011) 33:208–214
4. Jerod L. Nagel, Pharm D, Keith S. Kaye, MD, MPH, Kerry L . LaPlan te, PharmD, Jason M. Po gue, Pha rmD. Antimicrobial Stewardship for t he Infection Control Practitioner, Infect Dis Clin N Am 30 (2016) 771–784.
5. Dominik Mertz, Outcomes of early switching from intravenous to oral antibiotic on medical wards, Journal of Antimicrobial Chemotherapy, doi:10.1093/jac/dkp131.



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