**Department of Community Medicine**

**PRACTICAL NOTE BOOK**

**● Day Visits Reports**

**Batch : SWMC – IX**

**Reg. No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Session: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Code No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Sylhet Women’s Medical college**

**Mirboxtula, Sylhet**

# Chest disease clinic

We are the 3rd year MBBS students (SWMC-09) of SYLHET WOMEN’S MEDICAL COLLEGE have visited CHEST DISEAE CLINIC on 20 December 2015 under the guidance of department of community medicine. Chest disease clinic is specialized community clinic situated near the cox bazar medical college road at coxbazar.the hospital headed by junior consultant Dr.GULAM MOSTUFA. It was establishd during the rule of Pakistan to treat the tuberculosis disease, later its services was extended to include other non-tubercular chest disease.

**Date of visit**: 20 December 2015

**Name of organization:** Chest disease clinic,cox’s bazar

**Location**: Cox’s bazaar medical college road,cox’s bazar

**Year of establishment:** Pakistan period

**Objectives of visiting chest disease clinic**

1)To see services rendered by chest disease clinic.

2)To see the management of cases of tubercular and non tubercular chest disease and system they have adopted for different types of those cases.

3)To see same cases of tuberculosis was infrequent in general hospitals.

4) staffing pattern and infrastructure of the hospital.

5) protective measure of the employee, if any.A

**Activities of organization**

1) To ensure effective chemotherapy to all patient’s free of cost.

2) Promotion of early determinant of sputum positive tuberculosis

3) In this clinic they are using latest technology which is ***GENE EXPERT*** to detect tubercular organism in the chromosome. This technique is specific and less time consuming***.***

**Staffing of the hospital**

|  |  |
| --- | --- |
| **DESIGNATION** | **NUMBER OF POST** |
| Junior consultant | **1** |
| Medical officer | **1** |
| nurse | **1** |
| Medical Technologist | **1** |
| MLSS | **4** |
| LADY HOME VISITOR | **2** |

**Personal observation:**

1) Cleanliness of this clinic is average.

2) Working environment is satisfactory.

3) Lack of manpower.

**Disease review: Tuberculosis**

**Tuberculosis** or **TB** (short for Tubercle [Bacillus](http://en.wikipedia.org/wiki/Bacillus_(shape))) is a common and often deadly [infectious disease](http://en.wikipedia.org/wiki/Infectious_disease) caused by [mycobacteria](http://en.wikipedia.org/wiki/Mycobacterium), usually [*Mycobacterium tuberculosis*](http://en.wikipedia.org/wiki/Mycobacterium_tuberculosis) in humans. Tuberculosis usually attacks the [lungs](http://en.wikipedia.org/wiki/Lung) but can also affect other parts of the body. It is spread through the air, when people who have the disease cough, sneeze, or spit. Most infections in humans result in an [asymptomatic](http://en.wikipedia.org/wiki/Asymptomatic), latent infection, and about one in ten latent infections eventually progresses to active disease, which, if left untreated, kills more than 50% of its victims.

* **Global scenario :**

With 1.7 million deaths, 9.2 million new active cases per year and nearly two

billion people harboring latent infection.

* **Bangladesh scenario :**

In 2006, Bangladesh ranked 6th on the list of 22 highest TB countries in

the world. According to WHO, in 2006, apx. 391 cases per 100,000

population. Of these, apx. 101 per 100,000 were infectious cases.

* **Estimated Incidence rate :** Sputum +ve :101/1,00,000/yeaqr
* **Estimated Prevalence rate :**  391/1,00,000 population
* **Estimated mortality :** 45/1,00,000 /year

**Pathology and pathogenesis**

*M. bovis* infection arises from drinking non-sterilized milk from infected cows;

*M. tuberculosis* is spread by the inhalation of aerosolized droplet nuclei from other infected patients.

The smallest particles (1-5 μm) enter the periphery of the lung and are engulfed by

macrophages

CD4+ T lymphocytes produce an array of cytokines, including interferon-gamma (IFN-γ)

recruitment of monocytes formation of granulomas limiting the replication and

spread of the organism appearance of the primary lesion in the lung ('Ghon focus')

The combination of a primary lesion and regional lymph node involvement is termed

the 'Ghon complex'.

**Secondary tuberculosis:**

**Cause:**The bacilli spread (either by lymph or blood) before immunity is established, secondary foci may be established in other organs

**Site:**

* lymph nodes,
* serous membranes,
* meninges ,
* bones,
* liver,
* kidneys
* lungs

**FACTORS INCREASING THE RISK OF TB**

* Age (children > young adults < elderly)
* First-generation immigrants from high-prevalence countries
* Close contacts of patients with smear-positive pulmonary tuberculosis
* Overcrowding: prisons, collective dormitories
* Chest radiographic evidence of self-healed tuberculosis
* Primary infection < 1 year previously
* Immunosuppression-HIV, infliximab, high-dose corticosteroids, cytotoxic agents
* Malignancy (especially lymphoma and leukaemia)
* Type 1 diabetes mellitus
* Chronic renal failure
* Silicosis
* Gastrointestinal disease associated with malnutrition

**PRIMARY TUBERCULOSIS**

**Cause:**

Primary TB refers to the infection of a previously uninfected (tuberculin-negative) individual. A few patients develop a self-limiting febrile illness but clinical disease only occurs if there is a hypersensitivity reaction or progressive infection

**CLINICAL PRESENTATIONS OF PRIMARY PULMONARY TB**

* Chronic cough, often with haemoptysis
* Pyrexia of unknown origin
* Unresolved pneumonia
* Exudative pleural effusion
* Asymptomatic (diagnosis on chest X-ray)
* Weight loss, general debility
* Spontaneous pneumothorax

**Milliary TB:**

**Cause:** Blood-borne dissemination gives rise to milliary TB

**Feature:**

* 2-3 weeks of fever,
* Night sweats,
* Anorexia,
* Weight loss and
* Dry cough.
* Hepatosplenomegaly may be present
* Presence of a headache may indicate co-existent tuberculous meningitis

**CHRONIC COMPLICATIONS OF PULMONARY TB**

**Pulmonary**

* Massive haemoptysis
* Cor pulmonale
* Fibrosis/emphysema
* Atypical mycobacterial infection
* Aspergilloma
* Lung/pleural calcification
* Obstructive airways disease
* Bronchiectasis
* Bronchopleural fistula

**Non-pulmonary**

* Laryngitis
* Enteritis
* Anorectal disease
* Amyloidosis
* Poncet's polyarthritis

**DIAGNOSIS OF TB**

**Specimen**

**Respiratory**

* Sputum\* (induced with nebulised hypertonic saline if not expectorating)
* Gastric washing\* (mainly used for children)
* Bronchoalveolar lavage
* Transbronchial biopsy

**Non-respiratory**

* Fluid examination (cerebrospinal, ascitic, pleural, pericardial, joint)
* Tissue biopsy (from affected site; also bone marrow/liver may be diagnostic in patients with disseminated disease)

**Diagnostic tests**

* Circumstantial (ESR, CRP, anaemia etc.)
* Tuberculin skin test (low sensitivity/specificity; useful only in primary or deep-seated infection)
* Stain
  + Zeihl-Neelsen
  + Auramine fluorescence
* Nucleic acid amplification
* Culture
  + Solid (Löwenstein-Jensen, Middlebrook)
  + Liquid (e.g. BACTEC)
* Response to empirical antituberculous drugs (usually seen after 5-10 days)

**Control and prevention**

**BCG (the Calmette-Guérin bacillus)** is a live attenuated vaccine used to stimulate protective immunity and prevent the dissemination of MTB in an infected host. Vaccination policies vary worldwide according to incidence and health-care resources.

**Multidrug-resistant TB**

Multi-drug resistant tuberculosis (MDR-TB) is defined as resistance to both isoniazid and rifampicin, with or without resistance to any other antitubercular drugs.

**Drug Dose & combination:**

* Rifampin: 150 mg
* Isoniazid: 75 mg
* Ethambutol: 275 mg
* Pyrazinamide: 400 mg
* 2 choice of combination: 4FDC and 2FDC

**MAIN ADVERSE REACTIONS OF FIRST-LINE ANTITUBERCULOUS DRUGS**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Drugs | **Isoniazid** | **Rifampicin** | **Pyrazinamide** | **Streptomycin** | **Ethambutol** |
| **Major adverse reactions** | Peripheral neuropathy1 Hepatitis2 Rash | Febrile reactions Hepatitis Rash Gastrointestinal disturbance | Hepatitis Gastrointestinal disturbance Hyperuricaemia | 8th nerve damage Rash | Retrobulbar neuritis3 Arthralgia |

## 

## Prevention & Control of TB in Bangladesh

**The National TB Control Program (NTP)**

**Goals and objectives of the National TB Control Program ( NTP)**

The overall goal of the NTP is to reduce morbidity, mortality and transmission of TB until the disease is no longer a public health problem.   
The objectives are to detect 70% of new smear-positive pulmonary TB cases and cure at least 85 % of them by the year 2005 and be maintained thereafter to reach the MDG by 2015.

**DOTS Strategy:** The NTP adopted the WHO recommended strategy of Directly Observed Treatment Short-course (DOTS) in 1993.The DOTS strategy consists of five components:

* Political commitment
* Diagnosis by direct microscopy
* Directly Observed Treatment (DOT)
* Uninterrupted supply of drugs
* Standard recording and monitoring of detection and treatment results

**Achievements**

Since the introduction of DOTS the NTP and its partners have achieved satisfactory treatment results in new smear-positive patients, 84% treatment success among the patients detected during 2001. However, case detection has remained under 35%. During 2004 the detection rate of new smear-positive patients was 46%.During 2005 the detection rate of new smear-positive patients was 61% and treatment success rate 89%.

### Conclusion:

The visit to said institute was very much helpful to us. Though for obvious limitation it is very difficult to get a true picture of what part of the total population has been suffering from a life threatening disease like leprosy, but in spite of limited resources the organization has been playing a very important role in controlling and preventing tuberculosis which is appreciable.