PSC written Pathology solve:

General pathology (From Robbins Pathology)

Cellular adaptations:

a) Atrophy
b) Hypertrophy
c) Hyperplasia
d) Metaplasia

Atrophy: decrease cell size and number .
Physiological- during fetal development, after parturition uterine atrophy
Pathological- denervation atrophy, disuse atrophy, pressure atrophy, due to starvation, senile

Causes: loss of blood or nerve supply, reduce work load, inadequate nutrition, ageing, pressure.

Hypertrophy: increase cell size, not number
Physiological- skeletal muscles, uterus, breast
Pathological- cardiac muscle

Hyperplasia: increase cell number, not cell size

Physiological – Hormonal- breast and uterus, compensatory – after hepatectomy, nephrectomy.

Pathological- BEP, endometrium , skin wart, hypertrophic scar, keloid, hyperplasia of thyroid, bone marrow lymph node.

importance: fertile soil of malignancy

Metaplasia: Reversible process, one adult cell type to another adult cell type.

Example:

1. Epithelial-
   squamous- in smoking and vitamin A deficiency , gland duct metaplasia due to stone,
   colunmar- Barrets esophagus
2. Connective tissue metaplasia- myositis ossificans

Metaplasia is called double edged sword- cause loss of function and neoplastic transformation.

Intracellular accumulation:

1) intranuclear- lipid, proteins, carbohydrate
2) minerals, abnormal metabolic product
3) pigments-

a. exogenous- carbon, coal dust, lipochrome, lead, silver, iron, tatto particles
b. endogenous- melanin, lipofuscin, hemosiderin, hematin, bilirubin.

Causes of fatty changes;

1. toxins such as Ccl4
2. PEM, obesity, DM
3. starvation, anoxia , alcohol
4. Drugs- amidarone, MTX, diltiazem, tetracycline, HAART therapy, steroid, tamoxifen, phosphorus,

Pathological calcification:

Dystrophic calcification: in dead tissue, serum calcium normal
Sites : In areas of necrosis, Atheromas, Aging or damaged heart valves, tuberculous lymph nodes, infarcts,

Metastatic calcification: Causes of Hypercalcemia
Sites: gastric mucosa, Kidney, lung, Blood vessels

Cell injury:

Causes: Oxygen deprivation , physical agent, chemical agent, infection, immnologic reactions, genetic error, nutritional imbalance

Features of reversible hypoxic cell injury:
Gross changes- cellular swelling, fatty change, hydropic change or vacoular degeneration (hallmark – cellular swelling, ATP depletion, reduced oxidative phosphorilation, reversible)

Features of irreversible hypoxic cell injury:
Hallmark- irreversible damage in cell membrane, mitochondria, nucleus

Necrosis:

1. coagulative- MI, ischemia of kidney, liver, adrenal and other solid organs
2. liquefective – abscess, boil, brain tissue necrosis
3. caseous- Tuberculosis granuloma
4. fat – pancreas, omentum, breast
5. fibrinoid – acute Rf, RA, SLE
6. muscle – zenker's degeration

Apoptosis:

Morphology:

1. cell shrinkage
2. chromatin condensation
3. cytoplasmic blebs, apoptotic bodies
4. phagocytosis of apoptotic cells

Examples:

1. Physiological-
   a. during embryogenesis
   b. hormone dependent involution
   c. cell deletion in proliferating cell populations
   d. cell death in tumor
   e. death of neutrophil during inflammation
2. Pathological-
   a. cell death in heat, radiation, chemotherapy and hypoxia
   b. viral hepatitis
   c. pathologic atropy in gland afer duct obstruction

Types of free radicals:

1. O2 derived- superoxide, H2O2, OH-
2. cabon derived- CCl3-
3. nitrogen derived- NO-, NO2-, NO3-

Free radicals scavenging system includes –

- Catalase
- Superoxide dismutase
- Glutathione peroxidase

Inflammation:

Acute inflammation:

Components:

a. Alternation of vascular permeability
b. Structural change in microvasculature
c. Emigration of leukocyte

Cardinal sign- Rubor, dolor, calor, tumor, function lesa..

Exudate:	**Transudate:**
-Due to vascular permeability	-Due to hydrostatic pressure
-Inflammatory	-Non inflammatory
-High protein (>3 gm/dl)	-Low protein (<1gm/dl)
-Specific gravity >1.020	-Very Low (<1.012)

Outcome:

1. Complete resolution
2. Abscess formation
3. Fibrosis
4. Chronic inflammation

Benefits of inflammation:	**Harmful effects of inflammation:**
-Destroys , dilutes, wall off the injurious agent -Limits tissue damage -Wound healing -Restores tissue functions	1. Proceed to chronic 2. Hypersensitivity 3. Disfiguring scar 4. Fibrous band 5. Malignant transformation- hepatitis, ulcerative colitis

Edema in inflammation:

1. Increase vascular permeability
2. Increase capillary hydrostatic pressure
3. Breakdown of large tissue protein molecule
4. Increase fluidity of ground substance

Vascular permeability increases due to-

a. Formation of endothelial gap- elicited by histamine, bradykinin, leukotriens
Cytoskeletal reorganization – induced by IL-1, TNF, INF

Chronic inflammation:

Morphology:

1. Infiltration of mononuclear cells- macrophage, lymphocyte, plasma cells.
2. Tissue destruction- by inflammatory cells
3. Attempts at healing.

Acute inflammatory cells:	**Chronic inflammatory cells**
1. Neutrophil	1. macrophage
2. Macrophage	2. lymphocytes
3. Eosinophil	3. mast cell
4. Basophil	4. plasma cells

Preformed chemical mediators are: Histamines**,** Serotonin**,** Lysosomal enzymes

Newly synthesized from cells: cytokine, leukotriens, NO, prostaglandins.

From plasma: complement, kinins, fibrinopeptides, thrombin

Inflammatory ecosanoid causing vasoconstriction: thrombaxane –A2, leukotriens C4, D4, E4.

Granulomatous inflammation:

1. Bacteria – Tb, leprosy, syphilis, Chlamydia, bruceclla
2. Helminths- W. bancrofti, ascaris, schistosoma
3. Fungi- Rhinosporidium, Cryptococcus, histoplasma
4. Physical agent- Talc, mineral oil, silica, suture, beryllium, keratin, cholesterol
5. Auto antigens- Wegner's granulomatosis, giant cell arthritis
6. Idiopathic- sarcoidosis, Crohn's disease.

Wound healing:

Wound healing cells:	**Granulation tissue**
1. Macrophage	1. Fibroblst
2. Fibroblast	2. Capillaries
3. Vascular endothelial cells	3. Extracellular matrix
4. Dermal matrix	4. Inflammatory cells

Factors that influence the healing process:

Local factors:	**Systemic factors:**
1. Infection 2. Location, size and type of wound influence healing. 3. Hematoma formation. 4. Mechanical factor 5. Presence of necrotic tissue and foreign bodies 6. Ionizing radiation	1. Age 2. Nutrition -Protein malnutrition scurvy Vitamin D, Vitamin A 3. Zinc, calcium, copper and manganese. 4. Metabolic status – DM, anemia 5. Hormones – glucocorticoids. 6. Cold slows healing process.

Granulation tissue found in:

1. Wound healing
2. Abscess wall
3. Edge of Granuloma
4. Edge of healing ulcer
5. Fistula tract
6. Sinus tract
7. Edge of healing infarct

HemoDynamics:

Causes of edema:

1. Increase hydrostastic pressure- CCF, Heat, neurohumoral dysregulation
2. Reduced oncotic pressure- nephritic syndrome, liver cirrhosis, PEM, protein loosing enteropathy
3. Lymphatic obstruction- inflammation, neoplastic, post surgical, post irradiation
4. Water & salt retention- renal insufficiency, increase rennin activity
5. Inflammation

Fate of thrombosis:

1. Propagation
2. Embolization
3. Dissolution/ Resolution
4. Organization and recanalization
5. Calcification
6. Infection

Virchows triad:

1. Endothelial injury
2. Hyprecoagubility
3. Abnormal blood flow

Organs affected: Liver, Kidney Lung, brain, Heart.

Neoplasia:

Benign lesion but is precancerous lesion:

- Villous adenoma of the colon
- Pleomorphic adenoma
- Leiomyoma

Features of anaplasia:

1. Pleomorphism
2. Abnormal nuclear morphology
3. Abnormal mitosis
4. Loss of polarity
5. Giant cell
6. Hemorrhage or necrosis

Grading and Staging

Grading Tumor: It determines the level of differentiation. .

Staging:

1. Size of the primary lesion
2. Extent of spread to regional lymph node
3. The presence or absence of blood borne metastasis

What cancers metastasize to bones? – Prostate, Urinary bladder, kidney, Thyroid

Infective origin cancer:

1. HPV, HBV, HCV, HIV, EBV, HTLV,
2. H. pylori
3. Schistosoma
4. Liver flukes

Familial cancers: Breast, ovarian, pancreatic

Metastasis type: direct, hematogenaous, lymphatic

Tumor markers:

1. Hormone- **HCG**
2. Oncofetal antigen- **AFP, CEA**
3. Isoenzyme
4. Specific protein
5. Mucin & other glycoprotein
6. New gene marker

Genetic disorders:

Mutation:

1. Gene
2. Chromosome
3. genome

Causes:

1. spontaneous
2. mutagen- UV ray, radiation, anticancer drugs, rubella virus

Sterilization method	Materials to be sterilized
Flaming	Platinum loops, scalpel, needles etc.
Hot-air oven	Glass wares, petridishes, test tubes, flasks, beaker, cylinder, glass pipettes, swab sticks, oily fluids like greese & powder etc.
Pasteurization	Milk, milk products and other beverages.
Water bath & Vaccine bath	Serum, body fluid, bacterial vaccines etc.
Boiling (100^0C)	Water, glass syringes, glass pipette, medical & surgical equipments.
Tyndalization	Culture media containing egg, serum, sugar & gelatin.
Filtration	Toxin, serum, sugar, antibiotic solution etc.
Ionizing radiation	Rubber, plastic and polythene tubing including disposable syringes, adhesive dressings, bone & tissue grafts.
Autoclave	Culture media, dressing, aprons, surgical instruments (except sharp cutting instruments).
Gluteraldehyde/ Ethylene oxide gas	Rubber, plastic and polythene tubing including disposable syringes Bronchoscope, cystoscope, endoscpoe.
Formaldehyde gas	OT, Ward Woolen blankets, Wool and hides
Ethylene oxide	Polythene tubing Fabrics Heart lung machine.

Side effects of radiation:

1. fatigue
2. alopecia
3. skin rash
4. diarrhea
5. oral ulcer
6. nausea , vomiting
7. second cancer
8. radiation fibrosis

Prevention :

1. fractionation, IMRT
2. using radiation protector
3. local steroid
4. antioxidant

Classification of immunity:

A) Innate (non-specific) immunity: **1) Genetic/ Constitutional.** **2) Mechanical:** • Keratin layer of skin. • Intact mucous membrane. • Mucoilliary membrane. • Reflexes. E.g. coughing reflex, sneezing reflex etc. **3) Humoral:** • Normal bacterial flora. • Acid in gastric juice. • Complement system. • Interferons etc. **4) Cellular:** • Macrophage. • Eosinophil. • Natural killer cells ete	**B) Acquired (specific) immunity:** **1. Active:** (Where antigens are exposed to the body) **--Natural:** After clinical & sub-clinical infections. E.g Hepatitis-A virus infection. **--Artificial:** Different types of vaccines. E.g. bacterial vaccines. Viral vaccines, toxoids, live attenuated vaccines etc. **2. Passive:** (Where antigens are not exposed to the body) **Natural:** --Transfer of maternal antibody to fetus through placenta. --Transfer of antibody from mother to infants by breast mill. **Artificial:** -Antisera & antitoxins, e.g. TIG (tetanus immunoglobulins) ATS (anti-tetanus serum). ADS (anti-diphtheria serum) etc.

Factors that limit entry of microorganisms into the body:

1. Keratin layer of intact skin→Acts mechanical barrier.
2. Lysozyme in tears and other secretionns→ Degrades peptidoglycan in bacterial cell wall.
3. Respiratory cilia→ elevate mucus-containing trapped organisms
4. Low P^H in stomach and vagina & fatty acids in skin→ retards growth of microbes
5. Surface phagocytes (e.g-alveolar macrophages)→ ingest & destroy microbes
6. Defensins (cationic peptides) →Create pores in microbial membrane.
7. Normal flora of throat, colon and vagina→ occupy receptors, which prevents colonization by pathogens.

Elimination of invaded organisms/factors that limits growth of microorganisms:

1. Natural killer cells →kill virus-infected cells
2. Neutrophils→ ingest & destroy microbes
3. Macrophages & dendrite cells → Ingtest & destroy microbes, and present antigen to helper T-cells.
4. Interferons →ingibit viral replication
5. Complement →opsonization (help in phagocytosis) & direct killing by membrane attack complex.
6. Transferrin & lactoferrin →Sequester iron required for bacterial growth.
7. Fever→ elevated temperature retards bacterial growth.
8. Inflammatory response→ limits spread of microbes.

Human Oncogenic DNA virus:	**Human Oncogenic RNA virus:**
1. Genital herpes- carcinoma cervix 2. EB viruses-Burkitt's lymphoma. 3. Hepatitis B virus-Hepatocellular carcinoma (HCC).	1. Hepatitis C viruses-Hepatocellular carcinoma 2. Human T cell Lymphotrophic virus type1(HTLV-1)

Important properties of HIV:

1. Single stranded, enveloped, RNA virus.
2. Member of Retro virus family.
3. Contains reverse transcriptase enzyme.
4. oncogenic, lentivirus, cytolytic.
5. It has a bar-shaped core
6. surface antigens- Glycoprotein – 120 , Glycoprotein – 41 ,Glycoprotein – 161

Mode of transmission of HIV:	**Opportunistic infections in AIDS:**
Sexual transmission (75% - 85%) **Parenteral transmission:** By blood & blood products. By contaminated needles. By drug abusers. **Vertical transmission:** Trans placental During birth. Breast feeding.	**Bacterial:** M.tuberculosis, M. avium-intracellulare (MAI)**,** M. kansasii, Nocardia asteroids, Listeria monocytogenes, Salmonella. **Viral:** Cytomegalovirus (CMV), Herpes simplex virus, Herpes zoster, HBV **Mycotic / Fungal:** Candida spp.**,** Cryptococcus neoformans, Histoplasma spp. **Parasitic :**Pneumocystic carinii, Cryptosporidium spp, Isospora belli.**,** Strogyloides stercoralis.

Tumors associated with AIDS:

1. Kaposi's sarcoma in homosexuals.
2. B-cell lymphoma.
3. Cerebral lymphoma.
4. High grade non – Hodgkin's lymphoma.
5. Burkitt's lymphoma

Mechanism of rota viral diarrhea:

1. It infects the epithelial cells of the small intestine and multiples in the tip of the villi resulting in death and desquamation.
2. There is reactive hyperplasia of crypts cell. There two effects is responsible for decreased absorption of fluids and nutrients and increased secretion of fluid.
3. A viral protein stimulate the nervous system of the intestine that causes increased secretion

Types of hemorrhage-

1) Arterial, venous, capillary
2) Primary, reactionary, secondary
3) External, internal, internal becomes external

Arterial blood:

- ✓ Bright red
- ✓ Emitted as spurting jet
- ✓ Rises and falls in time with pulse

Venous blood:

- ✓ Darker red
- ✓ Steady and copious flow
- ✓ Can be off under pressure

Capillary blood:

- ✓ Bright red
- ✓ Rapid and oozing
- ✓ continuous

Types of shock:

1. Hypovolemic- hemorrhagic, non hemorrhagic,
2. Cardiogenic
3. Obstructive
4. Distributive
5. endocrine

Features of Progressive phase of shock:

a) Tissue hypoperfusion
b) Circulatory and metabolic imbalance & acidosis.
c) Tissue hypoxia (wide spread)
d) Intracellular Aerobic respiration stops.
e) Anaerobic glycolysis starts
f) Lactic acidosis, ↓tissue P^H
g) Blunts vasomotor Response
h) Arteriole dilates and blood begins to pool in the microcirculation.

Features of irreversible stage of shock:

- ❖ Severe cell and tissue injury so, severe even correction of Haemodynamic disorder patient doesn't survive
- ❖ Myocardial contraction ↓ due to NO.
- ❖ Bowl ischemia
- ❖ Renal shut down.

Causes of Reactionary hemorrhage: Hemorrhage within 24 hours of injury or operation.

- Rolling of a ligature
- Dislodgement of a clot
- Cessation of reflex vasospasm
- Recovery from shock
- Restlessness, coughing and vomiting.
- Rise of blood pressure

Operations of reactionary hemorrhage:

- ✓ Prostatectomy
- ✓ Thyroidectomy
- ✓ Tonsillectomy
- ✓ Hemorrhoidectomy

Causes of acute fever: Enteric fever, Abscess, Meningitis, Malaria Pneumonia, RTI, UTI

Causes of chronic fever: Kala-azar, Tuberculosis, Lymphoma, Chronic malaria, Leukemia, Aplastic anemia

Fever with Hepatosplenomegaly :

1) CML, Lymphoma
2) Kala-azar, Disseminated TB , Malaria,

Common causes of fever with jaundice:

1) Viral hepatitis
2) Leukemia, Lymphoma,
3) Disseminated tuberculosis

Common causes of fever with anemia:

1) Aplastic anemia
2) Leukemia, Lymphoma
3) Kala azar, Malaria
4) Connective tissue disease – RA, SLE.

Causes of Diarrhea:

a. Infectious –
    1. Virus- rota virus, adeno, calci, corona virus
    2. Bacteria- cholera, shigella, campylobacter, salmonella, Cl. Perfirienges, Difficile, yersinia,
    3. Toxin mediated- bacillus cereus, Cl. botulinum, staph. Aureus
    4. Parasite- entameaba histolytica, giardia, cryptosporidium
b. Non infectious- GIT, metabolic, Drugs

Causes of chronic diarrhea:

a. IBS, IBD, Malabsorption
b. Ch. Pancreatitis, Colorectal malignancy

c. Celiac disease, Tropical sprue
d. Laxative use
e. Hyperthyroidism
f. Post bowel resection

Causes of bloody diarrhea:

a. Shigella, E. coli, Campylobacter
b. Clostridium difficile
c. Vibrio parahemolyticus
d. Non infection- IBD, diverticulosis, rectal polyp, intussusceptions

Clinical features of cholera: Severe diarrhea without pain , vomiting, "rice-water" material is passed, Intense dehydration.
Muscular cramps, Shock and Oliguria.

C/F of measles: Rhinorrhea, cough, Conjunctivitis, Koplik's spots, Malaise, Fever, Rash

Complications of measles: Diarrhea, Otitis media, deep oral ulcer, Bacterial pneumonia, Encephalitis

Macular / Papular rash: Dengue, Measles, Typhoid, Rickettsial , Rubella, Secondary syphilis

Petechial or purpuric rash: Viral hemorrhagic fevers (VHF), Meningococcal sepsis, Leptospirosis, Malaria,Septicemia with DIC

Vesicular rash Insect bites, Chicken pox, Shingles (herpes zoster virus), Herpes simplex

Fever with rash:

1) Dengue.
2) Enteric fever.
3) Varicela (chicken pox).
4) Measles.

Common bullous lesions: Chicken pox, Herpes zoster. Stevens-Johnson syndrome, Pemphigus

Clinical features of Mumps: Pyrexia and headache, Tender parotid enlargement,

Complications of Mumps:
Meningitis, Encephalitis, Labyrinthitis, myocarditis, Pancreatitis, Arthritis, Epididymo-orchitis (25% of post-pubertal males), Abortion

Clinical features of influenza: Fever, Malaise, Cough, pneumonia

Clinical features of dengue fever:
Fever, Severe headache, Retro orbital pain severe myalgia / arthralgia / back pain, Hemorrhagic manifestation, Nausea / vomiting / abdominal pain, Rash

Herpes C/F: Gingivostomatitis, Pharyngitis, Painful genital tract lesions, Fever, Regional lymphadenopathy.

Rotavirus diarrhea: Incubation period is 48 hours, Watery diarrhea, Vomiting, Fever, Abdominal pain, Dehydration is prominent.

Clinical features of Rabies: Fever, anxious, 'hydrophobia', Delusions & hallucinations, spitting, biting & mania, Cranial nerve lesions, Terminal hyperpyrexia, Death.
Polio C/F: Fever, Sore throat, Myalgia, Asymmetric flaccid paralysis

Clinical features of typhoid : Fever , Headache , Myalgia , Relative bradycardia ,Constipation , Diarrhea and vomiting in children
End of first week: Rose spots on trunk , Splenomegaly, Cough, Abdominal distension, Diarrhea
End of second week: Delirium, complications, then coma and death

Complications of typhoid fever :
Bowel: Perforation, Hemorrhage
Septicemic foci: Bone and joint infection, Meningitis, Cholecystitis
Toxic phenomena: Myocarditis , Nephritis
Chronic carriage: Persistent gallbladder carriage

Clinical features of tetanus: Trismus, Ricus sardonicus, Opisthotonus, board-like rigid abdominal wall.
Patient may die from exhaustion, asphyxia or aspiration pneumonia.

Cardinal features of leprosy:
- Anesthetic Skin lesions
- Thickened peripheral nerves
- Acid-fast bacilli on skin smears

Complications of leprosy:
1) Crippling of hand.
2) Loss of digits /distal extremity.
3) Testicular atrophy & Orchitis- azoospermia and hypogonadism.
4) Blindness.
5) Respiratory tract infections.

Clinical features of Tuberculosis:
Symptoms:
1) Chronic cough, Hemoptysis
2) Evening rise of temperature
3) Night sweats, Anorexia
4) Weight loss, general debility
5) Unresolved pneumonia

Signs:

1) Raised temperature.
2) lymphadenopathy.
3) pleural effusion, Hepatosplenomegaly

Causes of false negative MT (tuberculin) test:

- Severe TB (25% of cases negative)
- Newborn and elderly
- HIV , DM, Steroid, Malnutrition
- Malignancy, Sarcoidosis

Causes of meningitis: neonate: E. coli, streptococcus agalactie, Listeria,
Pre school: Hemophilus influenza, Neisseria meningitides, Streptococcus pneumoniae

C/F of meningitis: Fever, Headache, Vomiting, Lassitude, Depression, Confusion

Signs:

1. Neck stiffness, Kernig's sign
2. Papilloedema
3. Focal hemisphere signs
4. Depression of conscious level

Clinical features of malaria:

1) The onset is often insidious.
2) Malaise, headache and vomiting.
3) The fever has no particular pattern.
4) Jaundice is common (due to Hemolysis & hepatic dysfunction).
5) The liver and spleen enlarged..
6) Anemia.

Complication of malaria / P. falciparum:

1) Coma, Convulsions.
2) Hyperpyrexia.
3) Hypoglycemia.
4) Severe anemia.
5) Acute pulmonary edema.
6) Acute renal failure.
7) Metabolic acidosis, Shock (algid malaria).
8) Aspiration pneumonia.

Causes of anemia in malaria:

1) Hemolysis
2) Dyserythropoiesis.
3) Splenomegaly and sequestration.

5 cardinal features of kala-azar:

1) Chronic fever:

2) Weight loss.
3) Anemia.
4) Residing / traveling in endemic area.
5) Splenomegaly.

Complications of kala-azar:

1) Secondary infection: Tuberculosis, Pneumonia, dysentery, Gastroenteritis
2) PKDL
3) Laryngitis & colitis.
4) Splenomegaly.
5) AGN

Investigations for kala-azar:

1) Rapid dipstick rk39 test
2) Napier's aldehyde test
3) ELISA, IFAT
4) Demonstration of parasites (LD body) by – Splenic aspirates, Bone marrow, Buffy coat, Lymph node biopsy
5) Culture of biopsy – In NNN media.
6) PCR for DNA defection

Haematological & biochemical tests: Blood for: anemia, leucopenia, high ESR

Common helminths in Bangladesh:

- Ascaris lumbricoides (Round worm)
- Ancylostoma duedenale (Hook worm)
- Enterobius vermicularis (thread worm)
- Taenia saginata (tape worm)
- Wuchereria bancroftti

Helminthic causes of anemia:

- Hook worm: Ancylostoma duodenale and Necator americana
- Round worm: Ascaris lumbricoides
- Fish tape worm: Diphylobothrium latum (megaloblastic anemia).

Causes of anemia by hook worm:

1) Sucking of blood by hook worm as their food.
2) Chronic hemorrhage from punctured site of intestine
3) Nutritional defects: microcytic hypochromic anemia

C/F of hook worm infection: allergic dermatitis, Paroxysmal cough ,Vomiting, Epigastric pain, Frequent loose stools, Anemia with high output cardiac failure.

Complications of ascariasis:
Medical conditions: Hypersensitivity, Pneumonitis, Pulmonary eosinophilia, Urticaria
Surgical conditions: Intestinal obstruction, Blockage of bile or pancreatic duct, Obstruction of

appendix, resulting in appendicitis.

C/F of Filariasis:

- Acute filarial lymphangitis- Fever, Pain, Tenderness and erythema
- Inflammation of spermatic cord, epididymis and testis
- Temporary edema
- Regional lymph nodes enlarge.
- Elephantiasis

Clinical features of Hydatid cyst: Jaundice, portal hypertension, dull ache and swelling in right hypochondrium, Rupture of cyst – Anaphylaxis.

Causes of urethral discharge:

1) Gonorrhea
2) Chlamydia urethritis
3) Non-specific urethritis (NSU)
4) Trichomonas vaginalis
5) Herpes simplex virus
6) Mycoplasma
7) Ureaplasma

(Non gonococcal urethritis (NGU) Cause)

Causes of genital ulcer:

1) Genital herpes
2) Primary syphilis (chancre)
3) Varicella zoster virus
4) Chancroid
5) Lymphogranuloma venereum

Important D/D of genital itch and/or rash:

1) Candida
2) trichomoniasis
3) Pthirus pubis (‘crab lice’)
4) Dermatoses: Eczema or psoriasis
5) Genital herpes

Important D/D of vaginal discharge: Trichomoniasis, Candidiasis, Bacterial vaginosis, Gonorrhea, Chlamydia

Important STIs / venereal diseases:

1) Syphilis, Gonorrhea
2) Chlamydia, Trichomoniasis
3) Genital herpes, Genital warts
4) Hepatitis B & C, HIV

Mode of transmission of syphilis:

1) Sexually transmission
2) Kissing.
3) Blood transfusion.
4) Percutaneous injury.
5) Transplacental.

Dx: VDRL, TPHA

Clinical features of Gonorrhea:

In men: purulent urethral discharge, Dysuria, proctitis.
In women: Vaginal discharge, Dysuria, Lower abdominal pain, dyspareunia

Complications of gonorrhea: Acute prostatitis, Epididymo-orchitis, Bartholin's gland abscess, PID (may lead to infertility or ectopic pregnancy), Disseminated gonococcal infection.

5 complications of scabies:

1) Secondary bacterial infections, e.g. impetigo, boil.
2) Secondary eczematization.
3) Acute glomerulonephritis (AGN).
4) Exfoliative dermatitis.
5) Urticaria.

Dermatophytes:

- Microsporum (skin, hair).
- Trichophyton (skin, hair, nail).
- Epidermophyton (skin, nails)

(Specific Virus and bacterial disease □□ summary □□ জন Lange Levinson Microbiology ,13th edition □□□□□ □□□ অধ্যায় – Brief summaries of medically important organism , Page- 1400 , থেকে দেখে □□□)

Condition Causing High ESR:□□□ □□□□ **MRCP**	**Condition Causing low ESR**:
1. Malignancy, MI, Multiple myeloma 2. Rheumatic fever, Rheumatoid arthritis 3. Collagen disease- SLE 4. Pulmonary TB, pregnancy	1) Polycythemia 2) Sickle cell anemia

1. **Normochromic, normocytic anemia (normal MCHC, normal MCV).**
    1. anemias of chronic disease
    2. hemolytic anemias (those characterized by accelerated destruction of rbc's)
    3. anemia of acute hemorrhage
    4. aplastic anemias (those characterized by disappearance of rbc precursors from the marrow)
2. **Hypochromic, microcytic anemia (low MCHC, low MCV).**
    1. iron deficiency anemia
    2. thalassemias
    3. anemia of chronic disease (rare cases)
3. **Normochromic, macrocytic anemia (normal MCHC, high MCV).**
    1. vitamin B_{12} deficiency
    2. folate deficiency

Cause of DIC:	**In DIC:**
1. Septic abortion, 2. Amniotic fluid embolism, 3. Septicemia, 4. Rh incompatibility, 5. After surgery, 6. Snake bite, 7. Ca lung , ca pancreas, leukemia, 8. Trauma, Burn.	↓ Platelet count ↓ Factor 1,2,5,8,10 ↑BT, ↑ CT, ↑PT, ↑ APTT +ve D- dimer ↑ FDP (□□□ □□□□- □□ □□□□ , শু □□□ ফ্যাক্টর □ প্লেটলেট, ক্যালসিয়াম)

Causes of Polyarthritis:

a. Osteoarthritis
b. Rheumatoid arthritis
c. SLE
d. Juvenile idiopathic arthritis
e. Acromegaly
f. Viral arthritis

Features of inflammatory arthritis:

a. Morning stiffness present
b. Improved after movement
c. Joint temp. raised
d. Joint effusion present

Causes of seropositive arthritis:

a. Rheumatoid arthritis
b. SLE
c. Osteoarthritis

Causes of Seronegative arthritis:

a. Ankylosing spondylitis
b. Psoriatic arthritis

c. Enteropathic arthritis
d. Reiters syndrome

Rheumatoid arthritis:
Diagnostic criteria: 4 or more…
a. morning stiffness more than one hour
b. three or more joints area involved
c. arthritis of hand joints
d. symmetrical arthritis
e. rheumatoid nodules
f. rheumatoid factors
g. radiological changes
h. duration is equal or more than 6 weeks

Features: Age: 30-50 yrs, Gender: Female> male

Deformities of advance disease:
a. ulnar deviation
b. swan neck deformity
c. Z deformity
d. Buttonniere deformity

Triad of reactive arthritis/ Reiter's syndrome: Arthritis, Urethritis, Conjunctivitis

SLE: 4 face, 4 system, 2 inflammatio, ANA positive
a. Malar rash
b. Butterfly rash
c. Photosensitivity
d. Oral ulcer
e. Arthritis
f. Serositis
g. Renal disorder
h. Neurological disorder
i. Hematological disorder
j. Immunological disorder
k. ANA positive

Osteoarthritis:
- ✓ after 45 year insidious onset, mostly female
- ✓ good days, bad days
- ✓ mainly pain during weight bearing or movement
- ✓ brief morning stiffness
- ✓ only one or few painful joints, large joints involved

Signs:
a. restricted movements (capsular thickening, blocking by osteophyte)

b. palpable, audible, coarse crepitus
c. bony swelling
d. deformity without instability
e. joint line tenderness
f. muscle weakness and wasting

C/F of hypothyroidism:

1. Weight gain, constipation
2. Hoarseness of voice
3. Cold intolerance
4. Bradycardia
5. Delayed ankle jerk
6. Constipation
7. Menorrhagia

Causes of Hyperthyroidism:

1) Graves disease
2) Toxic nodular goiter
3) Follicular carcinoma
4) Excess TSH from pituitary

C/F of Thyrotoxicosis:

1. Weight loss, increase appetite, Diarrhea
2. Heat intolerance
3. Oligomenorrhoea
4. Tachycardia
5. Lid lag, retraction
6. Exophthalmos

Clinical Triad of Grave's disease: Goitre, Exophthalmos, pretibial Myxedema

Causes of Hypercalcemia:

1) Hyperparathyroidism
2) Malignancy
3) Vitamin D intoxication
4) Osteoporosis
5) Thiazide diuretics

Sign of Hypercalcemia: Renal colic, Polyuria, Constipation, Depression, PUD

Causes of Hypocalcemia:

1) Metabolic alkalosis
2) Hypoalbuminemia
3) Vitamin D deficiency
4) Hypoparathyroidism
5) Acute pancreatitis

C/F of Cushing syndrome:

1) Weight gain, moon face
2) Mood change, Buffalo Hump
3) Impotence, proximal myopathy
4) Acne, poor wound healing
5) Hirsuitism , skin thinning, Bruising
6) Cataract
7) PUD, HTN, DM,

Acromegaly:

1) Enlarged hands and feet
2) prognathism
3) Fatigue and muscle weakness
4) Impaired vision
5) Headaches
6) Enlarged tongue
7) Pain and limited joint mobility
8) Menstrual cycle irregularities in women
9) Erectile dysfunction in men
10) Enlarged liver, heart, kidneys, spleen and other organs

Common site of peptic ulcer:

a. Stomach
b. 1st part of duodenum
c. Lower esophagus
d. Margin gastrojejunostomy stoma
e. Meckel's diverticulam

H. pylori infection associated with- gastritis, gastric ulcer, duodenal ulcer, malignancy

Triple therapy contains: Amoxicillin, Clarithromycin, Lansoprazole

Complications of vagotomy:

Dumping syndrome, Bile reflux, Diarrhea , Weight loss, Anemia, Metabolic bone disease, Gastric cancer

Clinical features of carcinoma stomach:

a. Early satiety
b. Weight loss
c. Anemia
d. Hematemesis, Melena
e. Abdominal mass
f. Jaundice, Ascites

C/F of carcinoma Colon:

1. Weight loss, Anorexia
2. Pain
3. Altered bowel habit
4. Abdominal distension
5. Per rectal bleeding

Causes of crepitation:

a. Pulmonary fibrosis
b. Pulmonary edema
c. Bronchiectesis
d. Lung abscess
e. Consolidation
f. Tb lung cavities

Causes of Wheeze:

a. Asthma
b. COPD
c. Pulmonary edema
d. Vocal cord dysfunction
e. Anaphylaxis
f. Bronchoconstriction due to any cause

Causes of consolidation:

a. Pneumonia
b. TB
c. Malignancy

Solitary nodule – carcinoma, metastasis, pneumonia, lung abscess, TB,

Multiple nodules – military TB, metastatic lesion

Cavitation- TB, Abscess, infarct,

Hilar Lymph node enlargement-

a. Unilateral- TB, carcinoma
b. Bilateral- Sarcoidosis, Lymphoma, TB

Causes of pleural effusion:

1.Unilateral-Pneumonia, TB, Malignancy, Liver abscess
2.Bilateral –CCF, NS, Cirrhosis of liver, Collagen disease

Exudative- TB, pneumonia, malignancy, collagen disease, pancreatitis, liver abscess
Transudative- CCF, hypoproteinemia, hypothyroidism,

Sign of pleural effusion-

a. Dense homogeneous opacity in the lower zone

b. Costophrenic & cardiophrenic angle obliterated
c. Trachea shifted to opposite site

Causes of Round shadow in lung:

a. Carcinoma
b. Metastasis
c. Abscess
d. Encysted pleural effusion
e. Hydatid cyst
f. Tuberculoma
g. Aspergilloma

Cough types-

a. Serous – pulmonary edema, alveolar cell cancer
b. Mucoid- COPD, Asthma
c. Purulent- Pneumonia, bronchiectesis, cystic fibrosis, lung abscess
d. Rusty- pneumococcal pneumonia

Causes of Dyspnea: B. asthma, LVF, Pneumothorax, Pneumonia**,** Pulmonary embolism**,** ARDS**,** Huge pleural effusion**,** Metabolic acidosis**,** Psychogenic hyperventilation, HCR

Causes of Hemoptysis:

a. Carcinoma
b. Tuberculosis
c. Pulmonary infarction
d. Pneumonia
e. Foreign body
f. Mitral stenosis
g. Acute bronchitis
h. Acute LVF

Causes of Pneumothorax-

a) Primary- rupture of bullae, bleb,
b) Secondary – COPD, TB, Lung abscess, pulmonary infarct, carcinoma, cystic disease

Life threatening features of Asthma:

a. PEF – 33-50%
b. SpO2 <92%
c. Normal PaCo2
d. Silent chest
e. Cyanosis
f. Feeble respiratory effort
g. Bradycardia
h. Hypotension

Status asthamticus:

a. PEF – 33-50%
b. Rate of respiration - >24/min
c. Heart rate > 109/min
d. Inability to complete a sentence in a breath

Nosocomial Pneumonia:E. coli, Pseudomonas**,** Serratia, Klebsiella

Atypical pneumonia:

a. Mycoplasma
b. Chlamydia
c. Coxiella
d. Respiratory syncytial virus
e. Influenza, para influenza
f. Adenovirus

PTB risk factors:

a. Extreme of age
b. Close contact to TB patient
c. Overcrowding
d. Primary infection
e. Immunosuppresion
f. Malignancy
g. CRF

Complications:

a. Consolidation
b. Hemoptysis
c. Bronchiectesis
d. Tension pneumothorax
e. Cavitation
f. Military TB
g. Pleural effusion
h. calcification

Anti TB therapy: 1st line, 2nd line (amikacin, ciprofloxacin, clofazaminie, levofloxacin, rifabutin)

Indications of steroid in TB:

a. bilateral adrenal TB
b. tubercular meningitis
c. pleural effusion
d. peritonitis
e. intestinal TB
f. military TB

Causes of lung abscess:

a. aspiration
b. bronchial obstruction
c. infection
d. Hematogenous
e. spreading infection

Bronchogenic carcinoma:

Symptoms

a. cough
b. Hemoptysis
c. weight loss
d. chest pain
e. malaise
f. Dyspnea
g. hoarseness of voice

Signs:

a. Cachexia
b. clubbing
c. Lymphadenopathy
d. pleural effusion
e. collapse
f. pneumonia
g. SVC obstruction
h. Horner's syndrome

Extrapulmonary manifestation of carcinoma:

a. Endocrine- SIADH, Hypercalcemia, carcinoid tumor, gynaecomastia
b. Neurological – polyneuropathy, myelopathy, myasthenia gravis
c. Others- clubbing, osteoarthropathy, NS, polymyositiis, eosinophillia

Traits	Restrictive airway diseases	Obstructive airway diseases
1) Involvement	Lungs, thoracic cavity and/or nervous system	Involves only in the airway tube
2) Expiration	Expiration is not affected	Expiration is affected
3) FEV_1	FEV1 is not decreased (decreased but less)	FEV1 is decreased
4) Example of disease	Poliomyelitis, myasthenia gravis, flail chest, pleural effusion, lung fibrosis.	Asthma, chronic bronchitis, emphysema.

Obstructive disease (e.g. asthma, chronic bronchitis, emphysema): ↓ FEV1, ↓VC; ↑TLC; ↑RV

Restrictive disease (e.g. pulmonary fibrosis):↓ FEV1; ↓VC; ↓TLC; ↓RV

Type-1 respiratory failure: low PO2, but normal CO2
Causes:
Acute: Lobar pneumonia**,** pulmonary edema, pulmonary embolism, ARDS, aspiration, collapse,
Chronic: Emphysema**,** Lung fibrosis
Rx- high flow O2, treatment of cause

Type-2 respiratory failure: Low PO2, high CO2
Causes: Severe COPD, Severe asthma, Narcotics(heroin) poisoning**,**Sleep apnea**,**Tracheal / bronchial obstruction, Foreign body obstruction**,**Chest injury, head injury
Rx – low flow oxygen, antibiotics, maintainence airway

Acute viral hepatitis C/F: Fever**,** Vomiting**,** Jaundice**,** Enlarged tender liver
Feco oral hepatitis: A, E
Parenteral hepatitis: B,C,D

Risk factors of HCC:
a. Hepatitis
b. Cirrhosis
c. Non alcoholic fatty liver
d. Aflatoxin
e. Androgenic steroid
f. OCP

Precipitating factors of hepatic encephalopathy:
a. Constipation
b. Drugs- sedatives
c. Dehydration
d. Hypokalemia
e. Infection
f. Porto systemic shunt
g. Upper GI bleeding

Causes of liver cirrhosis:
a. Chronic viral hepatitis
b. Alcohol
c. Fatty liver
d. Primary Biliary cirrhosis
e. Hemochromatosis

Complications of liver cirrhosis:
a. Portal HTN – variceal bleeding, gastropathy, periumblical vein, Splenomegaly, Ascites
b. Hepatic encephalopathy
c. SBP
d. Hepatorenal syndrome, Hepatopulmonary syndrome
e. Hepatocellular carcinoma (HCC)

Causes of portal HTN:

a. Cirrhosis
b. Polycystic liver disease
c. Veno occlusive disease
d. Budd Chiari syndrome
e. Portal vein thrombosis

Rx of portal HTN: Propranolol**,** Terlipressin,, Octeotide**,** TIPSS

Causes of Ascites:

a. Cardiac failure
b. Liver cirrhosis
c. Malignant disease- hepatic or peritoneal, stomach
d. Hypoproteinemia
e. Pancreatitis
f. Budd chiari syndrome
g. Meigs syndrome

Features of CLD:

a. Jaundice
b. Hepatic facies, Spider nevi
c. Clubbing, leukonychia
d. Gynecomastia, breast atrophy in female
e. Testicular atrophy, Loss of axillary hair
f. Palmer Erythema
g. Edema, Ascites

Complications of Ascites:

a. Spontaneous bacterial peritonitis
b. Renal failure
c. Abdominal hernia
d. Mesenteric venous occlusion

Causes of Hepatomegaly:

a. HCC, CML
b. Chronic malaria, Kala azar
c. Right heart failure, Hepatitis

Causes of enlarged tender liver: Acute viral hepatitis, Liver abscess, CCF, HCC

Causes of acute liver failure:

a. Drugs- Paracetamol, halothane, anti TB drugs,
b. Viral infection
c. Poisons - aflatoxins

Hepatic encephalopathy signs:

a. Flapping tremor
b. Constitutional apraxia
c. Hyper relfexia
d. Fetor hepaticus
e. Confusion, disorientation

Causes of hematuria:

1. Congenital – polycystic kidney,
2. Acquired-
   a. Kidney- rupture kidney, stone, tumor, AGN, TB
   b. Ureter- stone, tumor
   c. Bladder- stone, tumor, injury, schistosoma infection
   d. Prostate- BEP, carcinoma
   e. Urethra- rupture, stone, urethritis
3. Non kidney cause-Hemophilia, Anticoagulant, Scurvy, ITP
   1. disease

Causes of massive Proteinuria: more than 3.5 gm/day

a. Nephrotic syndrome
b. Amyloidosis
c. Multiple myeloma
d. Pre eclampsia

Causes of Urinary tract infection:

a. E. coli
b. Klebssiela
c. Proteus
d. Staphylococcus saprophyticus
e. Entrococcus
f. Pseudomonas

Risk factors for UTI:

a. Bladder outflow obstruction
b. Uterine prolapsed
c. Vesicoureteric reflux
d. Catheter, stent
e. Immunosuppresion

Classical triad of pyelonephritis: Loin pain, Fever, Tenderness of kidney

Cardinal presentation of AGN: Hematuria, Proteinuria, Hypertension, Edema, Oliguria, anuria

Causes of AGN:

a. Post streptococcal infection
b. Pneumococcus, hepatitis B&C, HIV
c. IgA nephropathy

d. Collagen disease

Complications of AGN:

a. Acute renal failure
b. Electrolyte imbalance- Hyperkalemia, Hyponatremia, metabolic acidosis
c. Hypertensive encephalopathy
d. Heart failure

Cardinal signs for Nephrotic syndrome:

a. Massive proteinuria
b. Hypoalbuminemia
c. Generalized edema
d. Hyperlipidemia, lipiduria

Causes of NS:

a. **Primary**- minimal change disease, focal glomerulosclerosis,
b. **Secondary**-

✓ DM, SLE,
✓ Drugs- NSAIDs, penicillamine, street heroin
✓ Infections- malaria, syphilis, hepatitis, AIDS
✓ Cancer- lymphoma, carcinoma
✓ Allergy,

Symptoms of NS:

a. Generalized body swelling
b. Anorexia, weakness
c. Abdominal pain, swelling
d. Diarrhea
e. Burning micturition

Signs:

a. Generalized Pitting edema
b. Ascites
c. Bilateral pleural effusion
d. Sign of pericardial effusion
e. Sign of infection

Urinary findings:

a. Massive proteinuria
b. Granular cast present

AGN:	**NS:**
Age- 5-15 year	Age- 2-6 year
H/O Pharyngitis	No H/O Pharyngitis
Hematuria – present	Hematuria – absent
HTN-present	HTN-absent

High color urine Proteinuria = +, ++ Granular cast- absent Relapse- not common	normal color urine Protein- massive Granular cast- present Relapse- common

Causes of acute renal failure:

a. Pre renal – blood loss, fluid loss, renal artery occlusion
b. Renal – acute tubular necrosis, glomerular disease, interstitial disease
c. Post renal – stone, tumor, BEP

Clinical feature of pre renal ARF:

a. Metabolic acidosis
b. Hyperkalemia
c. Hypotension

Clinical features of established ARF:

a) Anuria, Hyperkalemia, Metabolic acidosis
b) Dilutional Hyponatremia, Hypocalcaemia
c) Features of uremia – anorexia, nausea, vomiting, drowsiness, apathy, confusion, hiccough, muscle twisting,
d) Anemia

Causes of chronic renal failure:

a. Diabetes mellitus - 20-40%
b. Interstitial disease- 20%
c. Glomerular disease (IgA nephropathy)
d. HTN, Renal artery stenosis
e. SLE,
f. Polycystic kidney disease
g. Idiopathic

Renal failure when **GFR <15 ml/min**

Features of CKD/CRF:

- Anemia
- Bony change
- CVS- HTN, uremic pericarditis,
- Dermopathy- pruritus
- Endocrine- hyperparathyroidism,
- Fluid overload – edema
- GIT- anorexia, nausea,
- Hematology- bleeding
- Infection
- Kidney- polyuria,
- Myopathy, Neuropathy

Cardinal – anemia, anorexia, asthenia, HTN

Treatment:

a. Identify the cause
b. Prevent further damage
c. Limit the adverse effect
d. RRT

Indications of renal replacement therapy:

a. K+ level more than 6 mmol/l
b. Fluid overload
c. Serum Creatinine more than 6.8 mg/dl (600 micromole/l)
d. Urea level more than 180 mg/dl (30 mmlo/l)
e. Uremic pericarditis
f. Metabolic acidosis

Rule- **KFC USA**

Hepatic Neoplasm

-Benign tumors:

-Haemangiomas
-Hepatic Adenoma
-Focal Nodular Hyperplasia

Malignant tumors:

1. Primary Hepatic Cancer -One of the world's commonest cancers
   Types- 3 main cellular types
   a) Hepatocellular Carcinoma (Hepatoma)- 80%
   b) Cholangiocarcinoma- 15%
   c) Mixed form (hepatocholangioma)
2. Metastatic Neoplasm -**20 times more common** than primary tumours in liver
   -Cancers of breast, lung, pancreas, stomach, large intestine, kidney, ovary and uterus
   -Metastasis to the liver may be via- systemic circulation, portal vein or less often, lymphatics.

Amoebic Liver Abscess:

-Causative agent is a parasite named Entamoeba histolytica
-Spread is through faco-oral route.
-Usually the organism causes amoebic dysentery in man.
-Pathophysiology- after ingestion the amoebic cyst matures into trophozoite form in the colon. The trophozoite passes through the bowel wall into the liver via the portal blood.

-Investigations-
-Ultrasonogram or CT scan showing localized abscess
-Stool routine examination showing presence of amoeba or cysts

-Confirmation by aspiration from the liver lesion and microscopy (ancovy sauce appearance)

→ Treatment- Metronidazole 800mg t.d.s for 5-10 days. Aspiration is indicated if medical treatment fails or size is larger than 5 cm

C/F of polycystic kidney disease:

1. Irregular loin mass
2. Loin pain
3. Hematuria
4. Hypertension
5. Infection

Causes of UMNL:	**Causes of LML:**
-ICSOL -Stroke - Cord compression- PLID, carcinoma, myeloma, TB, Tumor,	-GBS -Polio -Motor neuropathy -Tabes dorsalis -Progressive muscular atrophy

Attack of epilepsy: phases

a. Aura
b. Tonic phase
c. Clonic phase
d. Post ictal phase

Demyelinating disease:

a. Multiple sclerosis
b. Wernick's encephalopathy
c. Tabes dorsalis
d. GBS
e. Amyotrophic lateral sclerosis
f. Different neuropathy

Resting tremor- Parkinson, **intension tremor**- cerebellar lesion

Causes of Flapping tremor:

a. Renal failure
b. Liver failure
c. Hypercapnia
d. Drug toxicity
e. Thalamic lesion

Causes of stroke in old age: HTN, DM, IHD, Atherosclerosis

Causes of stroke in early age:

a. Valvular heart disease
b. HTN
c. Vasculitis
d. AVM
e. Rupture Berry aneurysm
f. Hyperlipidemia

Risk factors for hemorrhagic stroke:

a. Age, family history,
b. HTN, Blood dyscaria
c. Thrombolytic drugs
d. AVM, Alcohol
e. Amphetamines, Cocaine

Alzheimer's disease: Memory loss, Agnosia, Visual hallucination, Depression

Parkinson disease: triad

a. Resting tremor
b. Rigidity
c. Bradykinesia

Rx:

Levo Dopa, procyclidine, Amantidine, Selegline, Entacapone, bromocriptine

Cerebellar lesion signs:

a. Ataxic gait
b. Post pointing
c. Dysdiadochokinesia
d. Hypotonia
e. Pendular knee jerk
f. Nystagmus
g. Scanning of speech
h. Heal shin test positive
i. Finger nose test positive
j. Romberg test positive

Drug causes of peripheral neuropathy:

a. Amidarone, Disulfuram,
b. Statins, tarcolimus,
c. Hydralazine, colchinin, phenytoin
d. Vincrisine, paclitaxel, Cisplatin
e. Cloramphenicol, nitrofurantoin, metronidazole, Gold,
f. INH, ethambutol,

Clinical features of syphilis:

1. **Primary syphilis**:Hard chancre, Painless regional lymphadenopathy.

2. **Secondary syphilis:**
   - General: Fever, malaise, arthralgia, sore throat and generalized lymphadenopathy.
   - Skin: Red or brown maculopapular non-itchy, sometimes scaly rash; condylomata lata.
   - Mucous membranes: Mucous patches, 'snail-track' ulcers in oropharynx and on genitalia.

3. **Tertiary syphilis:**
   - Late benign: Gummas
   - Cardiovascular: Aortitis and aortic regurgitation.
   - Neurosyphilis: Meningovascular involvementand tabes dorsalis.

Stigmata of congenital syphilis:

- Hutchinson's incisors , High arched palate., Maxillary hypoplasia., Saddle nose , choroiditis, interstitial keratitis, periostitis

Multiple sclerosis:

Autoimmune and inflammatory disease of CNS characterized by demylination of the axons.

Male: female = 1:2

Types: clinically isolated, primary, secondary, relapsing

C/F: Double vision, Muscle weakness, trouble with sensation, coordination difficulty,

Diagnosis: MRI of brain

Myesthenia gravis:

Chronic neuromuscular disease due to autoimmune destruction of the receptors of the acetylcholine.

Symptoms: varying degree of muscle weakness, double vision, drooping of eye lids, talking difficulty, abnormal gait.

Dx: detection of specific antibodies

Rheumatic Fever

Jones criteria:

1. *major – migratory polyarthritis, carditis, Nodules, erythema marginatum, sydenhams chorea*

2. *minor – fever, arhtralgia, raised ESR, leucocytosis, ECG change .*

plus evidence of infection by culture .

Important test:

a. *ESR & CRP*
b. *ASO titre*
c. *throat swab*
d. *Echocardiography*

Treatment: antibiotic, bed rest, aspirin, steroid

Rheumatic heart disease: most common Mitral stenosis

Mitral stenosis auscultation: *low pitched, localized, rough, rumbling, mid diastolic murmur, best heard by the bell of the stethoscope, in left lateal position with breath holding expiration.*

Complications:

a. *atrial fibrilation*
b. *thrombosis, embolism*
c. *pulmonary hypertension*
d. *chest infections*
e. *hemoptysis*
f. *Right heart failure*

Causes of sudden cardiac death:

a. *MI*
b. *aortic stenosis*
c. *hypertrophic cardiomyopathy*
d. *dialated cardiomyopathy*

Causes of Cardiogenic shock:

a. *MI*
b. *pericardial temponade*
c. *myocarditis*
d. *left ventricular damage*

Causes of heart failure:

a. *reduced contractility – MI, cardiomyopathy*
b. *outflow obstruction- HTN, stenosis*
c. *inflow obstruction- volume overload, VSD,*
d. *arrhythmia*
e. *diastolic dysfunction*

Cardinal sign of LVF:

a. *bilateral basal crepitation*
b. *gallop rhythm*
c. *orthopnea*

Treatment: propped up position, oxygen, morphine, diuretics, nitrate

Cardinal sign of RVF:

a. *dependent edema*
b. *raised JVP*
c. *tender hepatomegaly*

Causes of atrial fibrillation:

a. *mitral stenosis*
b. *IHD*
c. *thyrotoxicosis*
d. *hypertension*
e. *Idiopathic*

Treatment: ABCD (amidarone, beta blocker, calcium channel blocker, Digoxin)

Causes of complete heart block:

a. *acute inferior MI*
b. *beta blocker, amidarone, digoxin*
c. *cardiomyopathy*

Risk factors of IHD:

1. *Non modifiable – age, sex, family history, type 1 personality*
2. *Modifiable – Dietary habit, physical activty, obesity, alcohol, smoking, HTN, DM, hypercholesterolemia*

Types of angina pectoris-

a. *stable*
b. *variant*
c. *unstable*

Treatment of acute acute MI:

a. *Bed rest*
b. *Oxygen*
c. *Morphin*
d. *antiplatelet therapy*
e. *Nitrate*

Complications of MI:

1. *arrhythmia – fibrilation, ectopics, heartblock*
2. *circulatory failure*
3. *pericarditis*
4. *papillary muscle damage*
5. *thrombosis, embolism*

Causes of secondary hypertension:

1. *Obesity, acromegaly*
2. *pre eclampsia*
3. *cushing syndrome, pheochromocytoma*
4. *thyrotoxicosis, hypothyroidism*
5. *Renal cause – AGN CGN, Polycystic , renal vascular disease*
6. *drugs- OCP, steroid, NSAIDs,*
7. *coarctation of aorta*

Complications of HTN:

a. *stroke*
b. *encephalopathy*
c. *Hypertensive retinopathy*
d. *IHD*
e. *LVH*
f. *atrial fibrilation*
g. *progressive renal failure*

Side effects of ACE inhibitors:

a. *dry cough*
b. *angioedema*
c. *postural hypotension*
d. *hyperkalemia*
e. *acute reanl failure*
f. *Teratogenic*

Indications of CABG:

a. *left main artery block >50%*
b. *stenosis of LAD and proximal circumflex >70%*
c. *3 vessel block in asymptomatic patient*
d. *1-2 vessel block but large area risk in ischemia*

Causes of Heart failure:

f. *reduced contractility – MI, cardiomyopathy*
g. *outflow obstruction- HTN, stenosis*
h. *inflow obstruction- volume overload, VSD,*
i. *arrhythmia*
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Classification of congenital heart diseases:

a) Acyanotic:

- With shunt:
  1) Atrial septal defect (ASD)
  2) Ventricular septal defect (VSD)
  3) Patent ductus arteriosus (PDA)
- Without shunt:
  1) Coarctation of the aorta
  2) Congenital aortic stenosis

b) Cyanotic:

- With shunt:
  1) Fallot's tetralogy
  2) Transposition of the great vessels
  3) Ebstein anomaly
- Without shunt:
  1) Severe pulmonary stenosis
  2) Tricuspid atresia
  3) Pulmonary atresia

Fallot's tetralogy:

1. Pulmonary stenosis
2. VSD
3. Over ridding of the aorta
4. Right ventricular hypertrophy