Revision notes of General medicine

For HA CMA SN ANM Lab, pharmacy

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❖ Cranial Nerves

❖ 12 pairs of Cranial Nerves

- ❖ Part of Peripheral Nervous System
- ❖ All cranial Nerves Except 1&2 arise from Brain Stem
- ❖ All cranial nerves supply to same side except Trochlear
- ❖ All CN have b/l upper control
- ❖ Cranial Nerves carrying Parasympathetic Fibres –
- ❖ Occulomotor, Facial, Glossopharyngeal,Vagus
- ❖ Parasympathetic ganglions–
- ❖ Ciliary ganglion associated with 3rd nerve
- ❖ Sphenopalatine/pterygo palatine ganglion- 7th nerve
- ❖ Submandibular ganglion– 7th nerve
- ❖ Otic ganglion– 9th nerve

❖ SURFACE ANATOMY

- ❖ The horizontal plane passing through the disc that separates thoracic vertebrae T4 and T5 is one of the most significant planes in the body passes through the sternal angle anteriorly, marking the position of the anterior articulation of the costal cartilage of 2ndrib with the sternum.

  The sternal angle is used to find the position of rib II as a reference for counting ribs (because of the overlying clavicle, rib I is not palpable);
- ❖ Separates the superior mediastinum from the inferior mediastinum and marks the position of the superior limit of the pericardium
- ❖ Marks where the arch of the aorta begins and ends
- ❖ Passes through the site where the superior vena cava penetrates the pericardium to enter the heart
- ❖ Is the level at which the trachea bifurcates into right and left main bronchi
- ❖ Marks the superior limit of the pulmonary trunk
- ❖ Openings in diaphragm
- ❖ Venacaval opening-at T8 Vertebral level

- Inferior venacava

- Branches of rt phrenic nerve

- Oesophageal opening- at T-10 level

- Oesophagus
- Rt &lt vagus nerve
- Oesophageal branch of left gastric artery
- Veins &lymphatics
- Aortic opening – at T 12 Level

  - Aorta

- Azygous vein
- Thoracic duct
- The hilum of the right lung is arched by- Azygos vein

- Bochdalek hernia occurs in – Posterolateral part of diaphragm

- Anteriorly, the costal cartilages of ribs 1 to 7 articulate with the sternum (true ribs)
- The costal cartilages of ribs 8 to 10 articulate with the inferior margins of the costal cartilages above them.
- Ribs 11and 12 are called floating ribs because they do not articulate
- Centrally, the intercostal veins ultimately drain into theà azygos system of veins or into internal thoracic veins, which connect with the brachiocephalic veins in the neck.
- The right costo-phrenic recess extends up to the 10^{th} level of which rib in the mid-axillary line

- The middle cardiac vein is located at the Posterior interventricular sulcus
  The right coronary artery originates from the right aortic sinus of the ascending aorta
- The left coronary artery originates from the left aortic sinus of the ascending aorta àbranches into LAD(anterior surface of the left ventricle) & LCx (courses toward the left)

❖ Heart

- ❖ Right border is formed by the right atrium
- ❖ Left borderis formed by the left ventricle
- ❖ Apex of heart is formed by left ventricle
- ❖ Base of the heart is formed by the left atrium
- ❖ Anterior surface is formed by right ventricle
- ❖ The coronary sulcus circles the heart, separating the atria from the ventricles.
- ❖ It contains the right coronary artery, the small cardiac vein, the coronary sinus, and the LCx
- ❖ The large majority of cardiac veins drain into the wide coronary sinus
- ❖ The sinus opens into the right atrium between the opening of the inferior vena cava and the right atrioventricular orifice;

- The opening is guarded by an endocardial fold semilunar valve (eustachian valve)

BREAST

- Location: (female breast)
- Superior border: 2nd rib
- Inferior border: 6th rib
- Medial border: Sternum
- Lateral border: Midaxillary line
- Location: (male nipple)
- Fourth Intercostal Space, Midclavicular line
- Underlying muscle
- Pectoralis major and minor
- Part of serratus anterior, external obliques
- Arteries
- Lateral Thoracic Artery, branches of Internal Thoracic A., Post. Intercostals
- Veins
- Intercostal, Internal Thoracic, Axillary Veins
- Nerve
- Branches of Intercostal Nerve
- Spleen lies obliquely along the long axis of the 10th rib.
- Directed downwards, forwards & laterally making an angle of about 45 degree with horizontal plane.

- **PHYSIOLOGY**
- Conduction velocity
- Purkinje fibres -4m/s
- Internodal tracts -1m/s
- Vent muscle fibres -.5m/s
- Atrial m.f – .3m/s
- Bundle of His -.12m/S
- A.V Node – .05m/s
- Rythmicity
- SA Node-70-80 beats/min
    - A.V Node-40-60 beats/min
- Atrial m.f -40-60 beats/min
- Purkinje fibres-30-40beats/min

- Vent m.f 20-40 beats/min
- Systolic -cardiac output
- Diastolic –total peripheral resistance
- Blood will push into aorta –stretches aorta
- More stroke volumeàMore stretchingà SBP increased
- Diastolic BP
- When diastole starts ventricular pressure drops- aortic valve closes
- Elastic arteries recoil àblood tend to move forward&backwardàbackward movement is prevented by closed aortic valve
- Blood flows out àflow regulated by the tone of arteries

BLOOD PRESSURE

- S /v- heart rate
- Pre load contractility
- EDV
- Venous return
- Venomotor tone — blood volume
- Regulation of BP
- SHORT TERM LONG TERM
- Neurological RAAAS

- **NEUROLOGICAL**
- BP sensors in vessels
- Volume sensors in venous side
- Pressure sensors in arterial side
- Pressure sensors
- Carotid sinus
- Aortic arch sinus
- NTS (Nucleus Tractus Solitaris)

- 1)Stimulates cardio inhibitory centre – via rt vagus ànd SA node
- 2)INHIBITS cardio accelerator centre

3)vasomotor centre is inhibited

4)adrenal medulla is inhibited

5) JGA IS INHIBITED

- Long term regulator : RAAS
- Lung volumes

- IRV
- TV
- ERV
- RV
- FORENSIC MEDICINE
- Strong acids
- Inorganic acids-sulphuric acid ,nitric acid,hydrochloric acid
- Organic acids-carbolicacid ,oxalic acid,acetic acid,salycillic acid

- Strong alkalies

❖ Hydrates &carbonates of sodium,potassium &ammonia

❖ MEDICAL ETHICS

❖ Serious professional misconduct(infamous conduct)P

❖ Moral principles which guide the members of medical profession
❖ CENTRAL COUNCIL OF HOMOEOPATHY Act in 1973
❖ Main cause of penal erasure(removal name from medical council register)
❖ Any conduct which is considered as disgraceful
❖ Dichotomy –(fee splitting) -receiving or giving commission to a professional colleague or trader,chemist etc
❖ Adultery –voluntary sexual intercourse other than his or her spouse
❖ Covering-assisting a person who has no medical qlfcn to attend, treat or perform an operation
❖ Privileged communication – A statement made bonafied upon by a doctor to authority to protect the community

- Professional negligence(malpraxis)- IPC 304 A,312

❖ Absence of reasonable care and skill or willfull negligence of a doctor in tt of a patient which causes bodily injury or death
❖ CIVIL NEGLIGENCE – If following conditions are present
❖ Duty –existence of duty of care by the doctor
❖ Dereliction-failure of the doctor to maintain care &skill
❖ Direct causation -the failure to duty lead to death or damage
❖ Damage – the damage which results must be reasonably anticipated

❖ A civil wrong is known as TORT
❖ NOVUS ACTUS INTERVINIENS
❖ Unrelated action intervening
❖ The responsibility for death or disability may pass from original incident to the negligent action of doctor

- Criminal negligence-304A-IPC

❖ If gross negligence leads to death of patient.
❖ CONTRIBUTORY NEGLIGENCE
❖ If absence of care on the part of personal attend or patient along with doctors'
❖ Therapeutic misadventure
❖ If patient injured or died due to unintentional act by the doctor/hospital

- Vicarious liability
- An employer is not only responsible for his own act but also for his employees negligence (respondant superior-let the master answer)
- Euthanasia(MERCY KILLING) – producing painless death of a patient who suffers from incurable d's – No legal sanction in India
- CONSENT
    - Expressed
- Implied
- Oral consent-should be obtained in the presence of a third party
- OBSTETRICS
- a/c toxaemia of pregnancy
- Pre-eclampsia may be mild or severe charecterised by oedema,albuminuria &hypertension

- ECLAMPSIA is the above symptoms with convulsion or coma
- Abortion – Termination of pregnancy before the uterus become viable
- Can be due to
- Foetal factors
- Intrinsic defects of fertilised ovum
- Cystic degeneration of chorionic villi
- Haemorrhage into deciduous
- Low quality sperm
- Maternal factors
    - Infections
- DM
- Htn ,c/c nephritis
- Trauma,stress
- Uterine causes
- Congenital malformation of uterus
- Fibroid tumours of uterus
- Retroversion of uterus
- Ovarian tumours
- Hormonal causes
- Incompatibility of blood of husb & wife
- Pregnancy
- Changes in uterus &cervix
- Weight -50à900 gms (GENERAL BODY WT gain-5-9 kg)

- Size-7.5x5x2.5 cmà30x23x20
- Endometrium &myometrim undergo hypertrophy

- Endometrium of pregnant uterus is called Decidua
    - Cervix become softer 7secrete tenacious mucus
- Irregular ,painless contractions-Braxton—Hicks contractions
- In Vagina
- Blood supply increases –with bluish discoloration-Jacquemier's sign/chadwick's sign
- Vaginal Ph becomes acidic 3.8-4.4
- **In Breast**
- Oestrogen acts more on glands &ducts
- Progesterone acts on the secretory functions of Breast
- Prominent tubercles in the areola-Mont-Gomery tubercles
- IN SKIN – Main changes are due to MSH
- **General changes**
- Total blood volume increases by 30 %
- A/G ratio decreases
- Fibrinogen level increases
- ESR increases
- Cardiac Output RISES BY 40%
- Foetal heart beat can be heard from 16th week

- Qty of amniotic fluid-

- At 12 weeks -50 ml
    - 20 weeks-400ml
    - 35 weeks -1L
- UMBILICAL CORD- 50 CM
    - 2 arteries 1 vein
- Labour
- Stages of labour
- Stage 1
- Onset of true labor pain to full dilatation of cervix
- Stage 2
    - Dilation of cervix to expulsion of foetus
- Stage 3
- Expulsion of foetus to expulsion of expulsion of placenta and its membranes
- Mechanism of labor
- Engagement
- Flexion of head
- Internal rotation of head
- Crowning
- Delivery of head by extension
- Restitution
- External rotation
- Delivery of shoulders by lateral rotation
- Caulophyllum,arnica,puls,phos,ipecac,secale cor,sabina

GYNAECOLOGY

- Amenorrhoea –absence of menstruation
- Kallman's syndrome -hypogonadotropic hypogonadism-
- Dec:GnRH+ dec LH&FSH
- LH (N)&FSH Inc-PCOD
- LH inc &FSH inc- Ovarian failure
- Sheehans syndrome -ischemia due to venous thrombosis
- Dysmenorrhoea –painful menstruation
- Menorrhagia –excessive menstruation in excess of amount &duration
- Metrorrhagia –acyclical intermenstrual bleeding

- Polymenorrhoea-frquent menstruation at regular intervals
- Uterine fibroids
- Subserous
- Intramural
- Submucous
- Symptoms depend on the size of tumour
- SURGERY
- Types of fracture are:
    - Complete fracture: A fracture in which bone fragments separate completely.
- Incomplete fracture: A fracture in which the bone fragments are still partially joined. In such cases, there is a crack in the osseous tissue that does not completely traverse the width of the bone.
- Linear fracture: A fracture that is parallel to the bone's long axis.
- Transverse fracture: A fracture that is at a right angle to the bone's long axis.
- Oblique fracture: A fracture that is diagonal to a bone's long axis.
- Spiral fracture: A fracture where at least one part of the bone has been twisted.
- Comminute fracture: A fracture in which the bone has broken into a number of pieces.
- Impacted fracture: A fracture caused when bone fragments are driven into each other.
- Avulsion fracture: A fracture where a fragment of bone is separated from the main mass.

- **RENAL STONES**
- Calcium oxalate 80% when urine is acidic (low pH)
- Calcium phosphate _5-10 % when urine is alkaline (high pH)
- Uric acid 5-10% when urine is persistently acidic
- Diets rich in animal proteins and purines: substances found naturally in all food but especially in organ meats, fish, and shellfish.

Struvite 10-15% infections in the kidney("infection stones") Preventing struvite stones depends on staying infection-free.

- (ammonium magnesium phosphate, $NH_4MgPO_4 \cdot 6H_2O$

- Cystine 1-2% rare genetic disorder
- PATHOLOGY
- Inflammation is part of the complex biological response of vascular tissues to harmful stimuli, such as pathogens, damaged cells, or irritants
- Vascular changes : vasodilation, increased permeability and increased blood flow,
- Increased permeability -results in àallows leukocytes to marginate (move) along the endothelium(margination)àdiapedisis-the passage of blood cells through the unruptured wall of a blood vessel into the surrounding tissues.
- Chemotaxis-Movement of leukocytes within the tissue via
- Classical signs
- Redness – Rubor
- Swelling –Tumor
- Heat – Calor
  - Pain – Dolor
- Loss of function –Functio laesa
- The first four (classical signs) were described by Celsus
- While loss of function was added later by Galen
- Cells in inflammation
- Macrophages
- Mast cells
- Neutrophils
- Basophils
- The plasma contains four interrelated systems of proteins—
- Complement ,
- Kinins,
- Coagulation factors,
- Fibrinolytic system—that generate various mediators of inflammation.
- Complement proteins serve as chemotactic factors for neutrophils, increase vascular permeability, and stimulate the release of histamine from mast cells
- The kinin system, which is activated by coagulation factor XII, produces substances that increase vascular permeability.
  - The most important of the kinins is bradykinin
- The coagulation system converts the plasma protein fibrinogen into fibrin

- The fibrinolytic system contributes to inflammation primarily through the formation of plasmin
- Chemical mediators
- Histamine, which triggers vasodilation and increases vascular permeability. Stored in granules of circulating basophils and mast cells,
- Prostaglandins are a group of fatty acids, increase the effects of other substances that promote vascular permeability ,aggregation of platelets,
- Prostaglandins are associated with the pain and fever of inflammation.
- Acute phase proteins – C-reactive protein, serum amyloid A, and serum amyloid P
- Repair

- Granulation tissue
- Endothelial cells give rise to new blood vessels
- Fibroblasts grow to form a loose framework of connective tissue.
- This delicate vascularized connective tissue is called granulation tissue
- As repair progresses, new blood vessels establish blood circulation in the healing area, and fibroblasts produce collagen that imparts mechanical strength to the growing tissue
- Eventually a scar consisting almost completely of densely packed collagen is formed.
- Necrosis
- A form of cell injury that results in the premature death of cells in living tissue
- Coagulative necrosis – characterized by the formation of a gelatinous substance in dead tissues
- Seen in hypoxic (low-oxygen) environments, such as infarction.
- Coagulative necrosis occurs primarily in tissues such the kidney, heart and adrenal glands
- 2)Liquefactive necrosis (or colliquative necrosis)-characterized by the digestion of dead cells to form a viscous liquid mass.
- Hypoxic infarcts in the brain
- 3) . Caseous necrosis -a combination of coagulative and liquefactive necroses, typically caused by mycobacteria (e.g. tuberculosis), fungi and some foreign substance
- 4) Fat necrosis is specialized necrosis of fat tissue- acute pancreatitis

- Two pathways
- Oncosis (swelling of the cells)àblebbing, àpyknosis (nuclear shrinkage).In the final step of this pathway karyorrhexis (nucleus is dissolved into the cytoplasm)
- Karyolysis .Nucleusbreaks into fragments
- Infarction
- Tissue death (necrosis) caused by an obstruction of the tissue's blood supply
- Divided into 2 types according to the amount of blood present:
- White infarctions (anemic infarcts) affect solid organs such as the spleen and kidneys
    - Red infarctions (hemorrhagic infarcts), generally affect the lungs or other loose organs (testis, ovary, small intestines).
- Neoplasia
- Abnormal proliferation of cells.
- Anaplasia – Lack of differentiation
- Aplasia – when an entire organ or a part of an organ is missing

- Hypoplasia – inadequate or below-normal number of cells
- Hyperplasia – physiological proliferative increase in number of cells
- Neoplasia – abnormal proliferation
- Dysplasia – change of phenotype (size,shape and organization of tissue)
- Metaplasia –conversion of cell type
- Prosoplasia – cell type develops new function
- Desmoplasia – connective tissue growth

- Neoplasms may be benign, pre-malignant (carcinoma in situ) or malignant .
- Adeno – Epithelial glands-Adenoma-Adenoscarcinoma
- Fibro- Connective tissue- Fibroma- Fibrosarcoma

BACTERIOLOGY

- Staphylococcus + + + + + + + + + + + + +
- Gram + bacteria, round (cocci), and form in grape-like clusters
- Staphylococcus spp. Are facultative anaerobes (capable of growth both aerobically and anaerobically).
- Streptococcus ++++++++++++++
- Spherical Gram-positive bacteria
- The most common of these infections include streptococcal pharyngitis (strep throat) and impetigo,scarlet fever ,rheumatic fever and acute glomerulonephritis
- **Mycobacterium**
- The genus includes pathogens known to cause tuberculosis (Mycobacterium tuberculosis) and leprosy (Mycobacterium leprae)
- Mycobacteria are aerobic and nonmotile bacteria that are characteristically acid-alcohol-fast.
- Mycobacteria do not contain endospores or capsules and are gram-positive
- Ziehl-Neelsen stain
- M. tuberculosis
- First discovered in 1882 by Robert Koch,
- M. tuberculosis is highly aerobic and requires high levels of oxygen.
- Mycobacterium leprae
- (Hansen's coccus)

    - Bacterium that causes leprosy (Hansen's disease).

- It is an intracellular, pleomorphic, acid-fast bacterium.
- M. leprae is an aerobic bacillus (rod-shaped)

- Has been grown in mouse foot pads and more recently in ninebanded armadillos because they, like humans, are susceptible to leprosy

Virus

- **Human immunodeficiency virus (HIV)**
- Lentivirus (a member of the retrovirus family) that causes acquired immunodeficiency syndrome (AIDS)
- Enveloped RNA viruses
- HIV infects vital cells in the human immune system such as helper T cells (specifically CD4+ T cells), macrophages, and dendritic cells
- Viral RNA genome is converted (reverse transcribed) into double-stranded DNA by a virally encoded reverse transcriptase that is transported along with the viral genome in the virus particle.
- HIV-1 and HIV-2.
- HIV-1 is more virulent

- **Malaria**
- Develops via two phases:

- Involves the liver (exoerythrocytic phase), that 2) Involves red blood cells, (erythrocytic phase).

❖ An infected mosquito pierces a person's skin
❖ Sporozoites in the mosquito's saliva enter the bloodstream and migrate to the liver where they infect hepatocytes,àmultiplying asexually and asymptomatically for a period of 8–30 days

HELMINTHS

❖ Cestodes (tapeworms)
❖ Trematodes (flukes)
❖ Nematodes (roundworms)
❖ Lumbricoides-causes ascariasis.
❖ Is the largest intestinal roundworm and is the most common helminth infection of humans worldwide.

Community medicine

❖ Water
❖ Purest form of water –rain water

- CHEMICAL IMPURITIES :dissolved gases(oxygen nitrogen etc),dissolved salt(chloride carbonate bicarbonate etc)

❖ PHYSICAL IMPURITIES :suspended impurities, colloidal impurities
❖ MICRO ORGANISMS :algae, fungi, bacteria etc
❖ **Water purification**
❖ Physical processes -filtration, sedimentation, and distillation,
❖ Biological processes -slow sand filters or biologically active carbon
❖ Chemical processes -flocculation and chlorination and the use of ultraviolet light.
❖ Rapid sand filter
❖ The most common type of filter is a rapid sand filter.
❖ Water moves vertically through sand which often has a layer of activated carbon or anthracite coal above the sand.
❖ The top layer removes organic compounds

❖ NUTRITION

❖ FORTOFICATION –increase nutrient value by adding small qty of nutrients to improve the qlty of food
❖ Adulteration –prevented by PFA Act of 1954 Macronutrients-vitamins &minerals

- Net protein utilization -wt gain per unit volume of protein consumed
- Most common deficiency in india is IRON def anemia
- Pastorization donot kill anthrax but kill TB bacilli
- Family planning
- Population
- World more than 700 cr
- India 122 cr
- Most effective method of spacing between pregnancy is IUCD
- Opinion of 2 doctors is necessary FOR mtp BEYOND 12 WEEKS OF GESTATION
- MTP ACT ON 1971-alow MTP nly up to 20 weeks of gestation

- Couple protection rate indicates prevalence of contraceptive use in the community
- Pearl index-failure rate /100 woman yrs of exposure of contraception

  - **Immunization schedule**

- Live attenuated vaccines
- BCG,
- Typhoid oral (Ty21A), Plague,
- Oral Polio,
- Yellow fever(17 D), Measles, Mumps, Rubella, Influenza,
- Inactivated or Killed Vaccines
- Typhoid(TAB),
- Cholera,
- Pertussis,
- Rabies, ,
- Hepatitis B,
- JE,
- Diphtheria and Tetanus are Non- human antisera
  - (immunoglobulins)
- While hepatitis A & B,measles, rabies,mumps varicella are human immunoglobulins
- Most effective vaccine is yellow fever vaccine

PRACTICE OF MEDICINE

- JOINT DISEASES

  - Osteo Arthrosis

- Most common form of arthritis

- Kashin –beck disease is endemic OA
- No acute phase response
- Nodal OA
- Heberden's nodes -terminal interphalangial joint
- Bouchards nodes -proximal inter phalangeal joint
- X-Ray
- Focal narrowing &osteophyte formation
- Bone density is normal or increased
- Rheumatoid Arthritis
- Most common form of inflammatory arthritis in India
- Most common form of arthritis below the age of 50
- HLA DRW 4 &HLA DR 4 are ass with RA
- HLA DR 4 is correlated with the severity of the disease

- Anti globuln antibodies —acts on synovial membrane –
- More in females
- Symmetrical arthritis ,early morning stiffness
- Duration of symptoms for diagnosis-6 months
- F:M-3:1
- c/c symmetrical polyarthritisof distal joints
- Morning stiffnes
- Extra articular
- Skin –subcutaneous nodules, raynaud's phenmenon
- Eye -scleritis ,blue colour
- Resp -;caplans syndrome, interstitial fibrosis
- Rh nodules &cavitation
- CVS -percarditis
- AR ,conduction defects
- Variants of RA
- Stills disease
- c/c juvenile polyarthritis
- before 16 yrs
- pauciarticular
- rash ,fever, lymhadenopathy&splenomegaly
- Felty's syndrome : RA +SPLENOMEGALY+NEUTROPENIA
- Sjogren 's syndrome
- Keratoconjunctivitis scca+xerostomia+RA
- Schrimmer's test -blotting paper to eye -no wetting ❖ SLE

- INFLAMATORY DISEASE OF AUTO IMMUNE NATURE
- M:F-1:18
- Suppression of T cells with over activity of B cells
- Auto antibodies of IgG &IgM class
- Circulating immune complexes deposited in the tissues leading to inflammation
- Type II(brain damage, abortion)& Type III (renal ,vascular) Immune reactions
- Arthralgia/it is in 70-90 %
- Large joints
- Juccouds arthropathy of hand
    - Skin-65%
- Erythromatous photosensitive butter fly rash of cheeks and nose

- Frontal baldness,alopacea
- Discoid lupus-form of SLE in which manifestation is only in skin for few years
- CVS-25-40%
- Pericarditis,pericardial effusion myocarditis
- Libmann-sacks endocarditis-non bacterial verrucous endocarditisof miteral valve
- Raynaud's phenomenon
- Respiratory system-30%dry pleurisy ,pleural effusion
- Shrinking lung syndrome
- Kidney -60%
- Most important lesion deciding the prognosis
- Nephritic ,nephritic syndrome,RF
- Wire loop lesions produced by thickening of glomerular walls ❖ Blood
- Coomb's positive ,autoimmune haemolytic anaemia
- LE cells (PMNL)
- ESR increased
- Moderate anaemia,leukopaenia,thrombocytopaenia
- ANA in 95%
- Polymyositis/dermatomyositis

- Muscles show non suppurative inflammatory lesions ass:weakness atrophy &later calcification

- 5 clinical types
- Type 1 –typical polymyositis
- Type 2– „ dermatomyositis
- Type 3- dermatomyositis ass:with malignancy
- Type 4-childhood dermatomyositis
- Type 5 – D/P ass;with other collagen d's
- Muscles show loss of fragmentation ,loss of cross striations
- Dermatomyositis more common in females
- Proximal muscles are more affected in early stage
- Tenderness prominent
- Muscles are hyper reflexic
- Ocular muscles spared
- Muscle enzyme increased
- Heliotrope eruption on face with periorbitaal oedema
- Cutaneous lesions may ulcerate and leave behind deep scars
- Sero –negative Spondarthropathies
- HLA-B 27 common association
- Ankylosing spondylitis
- Marie stumpell disease,pocker back
- Predominantly affects Axial Skelton
- M:F -7:3
- K .pneumonia is the triggering infection
- LBA more in morning aggravated by rest
- Sacroiliac &vertebral joints more affected
- Obliteration of lumbar lordosis &limitation of mvmnt due to muscle spasm
- Ankylosis of spinal joint –whole spine rigid coloumn
- X-ray shows bamboo spine
- Psoriatic arthropathy
- **4 types**
- Predominantly distal arthritis involving interphalangeal joints
- Classic arthritis mutilans
- Closely resembling RA
- Spondylitis with or without peripheral arthritis ❖ Rieter's arthritis
- One among reactive arthritis

- Non –specific urethritis ,conjunctivitis, urethritis &arthritis
- Usually follows an attack of dysentery or urethritis
- R/A of tenosynovitis ,plantar fasciitis,enteropathy &frank arthritis
- Keratoderma blennorhagica
- Oral & cutaneous lesions painless
- Gout
- Due to disorder of purine metabolism resulting in hyperurecemia
    - & deposition of urate crystals in synovium
- Primary gout /genetic -95 %
- Almost excusive in males
- From over production/diminished excretion
    - Asymptomatic urecaemia
    - Acute gout – 1st metatarso phalangeal joint is commonly affected (podagra)
- Chronic gout
- Tophi –deposition of mono sodium urate crystals
- At ankle,tendoachiles,helix of ear
- Initially soft later hard
- Discharges chalky material
- Punched out erosions with overhanging cortical bone
- Hips &shoulders are generally spared
- Saturine gout
- Chronic lead poisoning resulting in attacks of gouty arthritis
- Chronic urate nephropathy is imp complication
- Synovial fluid is turbid due to increased cell count
- Renal failure is the major cause of death
- Chondrocalcinosis – CPPD,
- PSEUDO GOUT
- Deposition of calcium pyrophosphate crystal (CPPD)
- MOST COMMON JOINT AFFECTED IS KNEE JOINT
- Calciumpyrophophate ,rhomboid shaped crystal
- Normal serum urate levels
- Respiratory Infections

PNEUMONIA

✞

- Inflammation of lung parenchyma
- Organisms
- Most common in community acquired- streptococcus pneumonia
- In hospital acquired -pseudomonas
- Pneumococcal pneumoni-
- Commonest type
- Causes lobar consolidation
- Productive cough with Rusty sputum
- High pitched bronchial breathing
- Homogenous dense opacity
- Klebsiella –(FRIEDLANDERS pneumonia)
- Common in alcoholic &diabetics
- Massive consolidation of one or more lobe
- Currant jelly sputum -viscid blood stained sputum
- Bulging interlobar fissure is characteristic finding
- Staphylococcus pneumonia
- Common in IV drug users,leukemia,lymphoma
- Pyopneumothorax &abcess formation is common
- Legionella pneumonia
- Humidifiers,cooling towers &shower heads
- GI symptoms &mental confusion,heameturia
- Hyponatremia ‘proteinuria
- Pnemocystis carni pneumonia
- Most common cause of death in AIDS
- Bibasal creps
- Peripheral shadowing
- Influenza virus- most common viral cause of pneumonia
- Hemophilus influenza –produces green sputum
- Actinomycosis – b/l empyma with chest wall sinuses , sulphur granules in chest discharge
- CXR in pneumonia
- Lobar consolidation-Pneumococci,H .influenza,klebsiella,
- Staphylococcus aureus-patchy infiltration
- E.coli- patchy infiltrates, pleural effussion
- Pseudomonas- patchy infiltrates &consolidation
- Chlamidiye-subsegmental infiltrates

- Broncho pneomonia

❖ More common during infancy &old age
❖ Occurs as complication of measles ,whooping cough,viral d's,etc
❖ Wide spread patchy consolidation in both lungs ❖ Tuberculosis
❖ Caused by m.tuberculosis
❖ Primary –organisms in alveolià lymphatics àhilar nodes enlarge
❖ Parenchymal lesion(gohn lesion) +lymphatics+hilar nodeàgohn complex/ (ranke complex)
❖ USUALLY SEEN IN CHILDHOOD
❖ Fate …
❖ Completely heal with /without calcification
❖ Prim focus walled off by collagen, but organism remain inside:
- can reawaken

❖ Actively progressing from beginning
❖ Healing incomplete in lymph node
❖ Bacilli enters the blood stream
❖ a)a/c-in infants &children àmiliary TB
❖ b)c/c-tb in kidneys ,lungs ,bones etc
❖ Post prim PT
❖ FROM
❖ Direct progression of prim lesion
❖ Reactivation of dormant lesion
❖ Heamatogenous spread into lungs
❖ Exogenous superinfection
❖ Lymph node involved less ,more parenchymal lesion
❖ Apical lobes more affected
❖ Tuberculous cavity main feature
❖ The liquefied centre is discharged into the bronchus
❖ Post-tussive creps is characteristic
❖ Puhl's lesion -chronic PT of apex of lung
❖ Simon's focus -sec PT in apex &post part of upper segment
❖ Asman's focus -chronic intraclavicular lesion
❖ Riche's focus -dormant intracranial focus
❖ Rasmussen's aneurysm-Dilated vessel in tuberculous cavity
❖ Poncet's polyarthritis-extra pulmonary complication of PT ❖ Asthma
❖ Episodic or chronic symptoms of airflow obstruction:
❖ breathlessness, cough, wheezing, and chest tightness.

- Due to increased responsiveness of tracheo bronchial tree ❖ Muscle spasm, mucosal oedema,viscid bronchial secretion ❖ Cells
- Mast cellsMacrophages eosnophils T-lymphocytes ❖ Mediators

- Cytokine,Histamin,e Bradykinin, Prostaglandins,Thromboxane ,PAF
- FREQUENT BRETH ATTACKS,
- Bronchomotor tone &bronchial reactivity reaches max at 3-4 am Morning dipping of PEFR is charecteristic
- Dimension that is not altered in asthma is FVC
- Sputum contains cruschmann's spirals &charcot layden crystals
- Acute severe astma
- Silent chest
- Pulsus paradoxus
- Central cyanosis
- Pigeon chest
- Nervous System
- Meningitis
- Inflam'n of leptomeninges &SA space
- Most common organisms
- Whole age together –streptococcal pneumonia
- In neonates –E .coli
- In infants /child –HEMOPHILUS INFLUENZA
- 2-20 yrs –meningio cocci

In immunocompromised ,alcoholics&diabatics-listeria monocytogens

- VASCULAR TERRITORY
- CERBRAL CORTEX-ACA,MCA,PCA
- MIDBRAIN-post CA
- PONS-PONTINE BRANCH OF BA
- Medulla-Br of VA,Br of PICA
- Cerebellum-sup cerebellar,AICA,PICA
- INT CAPS-MCA,ACA,ANT choroidal
- CVA
- ISCHAEMIC stroke-
- Throbotic
- Embolic

- Heammorhagic-
- Intracranial aneurysm
- AV malformation
- MC artery involved in stroke is –MCA
- MC site intracranial hyper tensive bleeding -PUTAMEN
- LACUNAR INFARCTS –infarcts of less than 5 mm ,
- Lesion is in the artarioles
- Classical/dense hemiplegia –lesion in internal capsule
- Monoplegia in c/l side -Motor area &corona radiata
- i/l Cr n palsies +c/l hemiplegia –brainstem lesions
- CSF (Normal)
- Colour-clear &transparent
- Pressure-60-150 mm of CSF
- Qty -150 ml
- Prd'n-550ml/day
- Cells-0-5 WBC
- PROTIENS-20-40mg%
- Sugar-40-70 %
- Chlorides -720-750 mEq /l
- FACIAL NERVE
- Ramsay hunt syndrome
- Herpes zoster of geniculate ganglion
- Pain in ears with vesicles I pinna,along with LMN palsy
- Bell's palsy
- Idiopathic facial palsy of LMN type
    - Pain about the ear,taste disturbanceon ant 2/3 rd of tongue
- Brainstem stroke syndromes
- Webers syndrome- i/l 3rd N palsy +c/l hemiplegia
- Claud's syndrome'-i/l 3rd N palsy +c/l cerebellar signs
- Millard –gubler syndrome -6th n palsy +c/l hemiplegia
- Wallenberg syndrome/LMS –I/L 9,10,11 PALSY+C/L
    - SPINOTHALAMIC SENSORY LOSS+I/L
- ISCHEMIC HEART Diseases
- Risk factors

- Fixed

- Male >25 ,Female >45 ,f/h of premature CAD

- Modifiable

- Hypertension ,smoking ,DM ,BMI >22 , LDL:HDL >5
- ORGANISMS ASS: CAD-

- Chlamidiye pneumonia,
- Cyto Megalo Virus,
- H Pylori
- Biochemical markers-

- CK,LDH,TOPONIN –T, myoglobin, SGOT

- MOST SPECIFIC- CK (MB)

- EARLIEST ecg change is ST elevation

- LARGER INFARCT MAY UNDERGO SOFTENING – myomalaciacordis

- MC site is LV

- MCC of death is Ventricular fibrillation

- Creatine phosphokinase(MB) 2-4 hrs 24 hr 72 hr
- LDH 24 hrs 4-5 days after 10 days
- AST/SGOT With in 12 hr 48 hr 4-5 days
- TOPONIN I/T As early as 4 hr- ❖ Myoglibin with in a few hr
- Dressler's syndrome –post MI syndrome

- Few weeks (1-12) MI
- PRESENTS AS PERICARDITIS

- Hypertension

- Malignant hypertension

- With papilledema,nephropathy,&encephalopathy Fibrinod necrosis-on the walls of arteries
- Most common cause of sec htn-renal parencymal d's

- Keiyh wagne classification -Grades

- Silver wiring-grade 1
- Sun sign-2
- Salu's sign -2
- Flame shapd h'ges&cotton wool patches-3
- papilloedema-4