SURGERY

- **Surgery:-**It is the branch of medical science which study about the disease and condition requiring to operative or manual procedure.

❖ Bacteremia :-spread bacteria in blood stream
❖ Septicaemia:-multipication of bacteria in blood stream
❖ Toxemia:-it is the spread of toxin ,or toxic products from the site of inflammation into the blood stream
❖ Pyemia:-spread of pus forming bacteria in blood stream its causes of multiple pus formatation

INFLAMMATION

- The response of the body to an irritant or injury is called inflammation.

❖ **Causes:-**

1. **Physical:-**trauma, cold, hot, radiation, etc.
2. **Chemical:-** Acid, alkali, etc.
3. **Biological:-** Bacteria, Virus, Fungi, etc.

❖ **Cardinal Sign of Inflammation:-5**

1. Hot(Calor)
2. Redness(Rubor) 1st sign (vasodilation)
3. Swelling(Tumor)
4. Pain(Dolor)
5. Loss Of Function(function laesa)

❖ **Pathology (Stages Of Inflammation):-3**

1. Entrance of causative agent
2. Stage of destruction
3. Stage of proliferative or healing

❖ **Factor interfering with the process of inflammation:**

1. Poor blood supply (main).2.malnutartion3. DM4.poor general condition

❖ **Management**
❖ **1.general**

- Rest and elevated part
- Hot formantation/cold compression
- High protein diet ,vit-c,zinc,copper and iron
- Analgesic and antipyretic

2. Specific :-

- If pus formation :- I and D
- antibiotics:-cloxacilline500mg QID 5-7days

BOILS (Furuncle)

- It is the inflammation of hair follicles by StaphylococcosAureus.

❖ **Sites:-**

1. Face and Back of neck
2. Axilla,scalp
3. Axilla (m.c.)
4. Gluteal Region

❖ **Clinical Feature**

- Redness,tenderness, itching,shiny skin swelling
- Pain thrombing in nature
- **Pus point arounfd hair follicles(Pathognomic Feature)**

❖ **Treatment**

- General Management
- Rest affected part
- Improvement of genera hygiene
- Analgesic and antipyretic

- I/D -choice of treatment
- Antibiotics:- penicillin (Cloxacilline 500 mg QID 5-7 days)
- **Complication:**

1. Cellulitis
2. septicemia.

- **Note**

- Dangerous Boils:- On the face
- Tender Boil:- External Auditary Canal
- Sweet Boils:- Diabetic Patient (most Common)
- Boils is More Common in Summer Season.
- More common seen in :-DM patient
- Hydraadenitis:- Inflammation of Group of Hair follicle

CARBUNCLE

- It is infective gangrene of skin and subcutaneus tissue
- **Causative agent:-**Staphylococcusaureus
- **Predisposing Factor**

1.Dibetes (m 2.Male >40Yrs 3.immuno spressed 4.PEM

- **Sites:- 3B**

1. Nape of neck or Back of the neck(m.C.)
2. Back of body
3. Buttock

- **Clinical Feature:-**
  - Multiple Pus Point(Pathognomic)
  - Fever chili's and rigors
  - Red,hot,coalangery look like a red hot coal
  - Skin Become Black
- **Treatment:-**

1. General Management
   - Rest
   - Analgesic and antipyretic
   - Mgso4 dressing
   - Daily dressing
   - Control blood pressure
   - I/D by Crusiate Surgery→ Choice of Treatment

3. Antibiotics:- Cloxacilline or flucloxacillin

- **Complication**
- Septicemia
- Diabetes ketoacidosis
- Note:-high protein and low carbohydrate diet

CELLULITIS

- Its the inflammation of skin and subcutaneous tissue.
- **Causative agent:-**Streptococcospyogens
- Predisposing factors
  - DM
  - Malnutrition
  - Hypoproteinemia
  - Alcoholics
- **Clinical Feature**
  - **Cardinal sign (+)**
  - **Shiny skin**
  - **red and hot**
  - **Cutaneous tissue necrosis**
  - **Reginal lymph node enlarged and tender**
- **Treatment**:-
  - Rest and affected part

- Elevated affected part
- Analgesic and antipyretic
- Dressing with hydroscopic prepration :-mgso4
- Antibiotics :-penicilline , Cloxacilline

❖ **Complication:-** Septicemia, pyemia
❖ **Note :-shiney skin**
❖ **Mgso4 dressing:-abscess, cellulitis,boil,carbuncleetc**
❖ ***Note:-shiny skin***

ABSCESS

➢ An abscess is the localized collection of pus lined by granulation tissue is called abscess.
❖ **Causative Agent:-**Staphylococcos(m.c), Streptococcos, E.coli(gram(-)etc
❖ **Composition of Pus:-**i) Dead microorganism ii) Dead Blood Cell iii) Dead tissue
❖ **Types:- It is 4 types:-**

1) Pyogenic (m.c)
2) Pyamic
3) Metastatic
4) Cold Abscess(Glandular TB,leprosy,modura foot, actinomycosis

❖ **S/S**

- Cardinal sign (+)
- Loss of appetite
- thrombing pain
- flucatation test (+)

❖ **Treatment:-**

1. General Management
2. Hot Compress (10min BD)
3. I/D→ Choice of treatment
4. Antibiotics:-cloxacilline

❖ **Complication**

i. Bacteremia,septicemia or pyamea
ii. Multiple abscess formation
iii. Antibioma formation(antibiotics induced swelling)(Common in Breast Abscess)

HYDROCELE

➢ Hydrocele is the collection of serious fluid with in the tunica vaginalis.
❖ **Type:-**

1. **Congenital**
2. **Acqiured : →**

i) Primary(Idiopathic) ii) Secondary:-filariasis (m.c.),trauma , tuberculosis,epididymo-orchitis etc

❖ **Clinical Feature:-**

i. Scortal Swelling
ii. Dragging Pain
iii. Fluctuation Test +ve
iv. Transillumination test +ve
v. Cough impulse (-)

❖ **Treatment:-**

i. Aspiration (Paracyntesis)
ii. Excision of Whole part of sac
iii. Eversion of Sac(Jaboulay operation)→ Choice of Treatment

❖ Complications

- Hematocele
- Pyocele
- Atrophy of testies
- Rupcture of hydrocele sac

HERNIA

- It is Defined as an abnormal pertusion of an organ of part covering in a sac through an abnormal opening in the wall of the cavity in which it is contained.

❖ **Classification Of Hernia:-**

1. **According to Site(external abdominal hernia)**

- Inguinal Hernia:- Most Common Hernia Both in male and female. Length:- 4cm
- Femoral Hernia:- More common Hernia In Female.
- Umbilical Hernia:- Most Common in Child. It Is also Asymptomatic Hernia or self limiting hernia
- Epigastric Hernia:- Rare Hernia (More Common in male) Etc.

2. According to Presentation:

i. Reducible Hernia:-Cough impulse is +ve.

ii. Irreducible Hernia
- (cough impulse (+or -)
- Pain and tenderness

iii. Obstructed Hernia:- the content are irreducible and the lumen of the gut is occluded but no interferences to the blood supply
- Vomiting
- Dystension of abdomen
- Visible peristalsis
- Increased bowel sound

iv. Strangulated Hernia:- Stimulated hernia/Dangerous Hernia/Emergency Hernia :- blood supply of it's content is seriously impaired leading to gangrene. operations done within 6 hour
- Sudden pain start
- Repeated forceful vomiting
- Patient look toxic
- Blood pressure :-hypoteneion
- Abscent bowel sounds

v. Inflammed Hernia

❖ **Causes:-**

1) Congenital
2) Acquired:-
   i) Chronic Cough
   ii) Chr. Constipation
   iii) Repeated Pregnancy
   iv) Obesity

v) Straining At urination

Vi) heavy weight lafting ,wasting of abdominal muscles

❖ **Treatment: -**

1) Herniotomy :- Adult
2) Hernioplasty:- Child
3) Herniorrhaphy
4) Hernial tuss

Difference Between Phimosis And Paraphimosis	
Phimosis	**Paraphimosis**
Inability to retract the prepucial skin is known as phimosis.	The Retracted skin of the gland penis can not be pulled forward is known as paraphimosis.
It is common in young child	It is common in old aged people.
Causes: - congenital	**Causes**:- it may occur after masturbation, sexual intercourse, bathing glands , after catherizationetc

reatment:- Circumcision	**Treatment**: - Circumcision
Complication:- Carcinoma of Penis, Retension Of Urine	**Complication**:- Retension of Urine, Ulcer of Glands penis, Gangrene,etc

*HAEMORRHOIDS /PILES/*anal fusion prolapse

- The haemorrhoid is the collection of plexus of Vein covered by mucous membrane just above the anorectal junction. Nowadays haemorrhoid is defined as the prolapse anal cushion.

❖ **Location: -**

- the piles or haemorrhoid are situated at 3,7 and 11 o'clock position. It is also called principle haemorrhoid/ primary haemorrhoid.
- There may be smaller subsidoryhaemorrhoid(Secondary Haemorrhoid) in between the principal haemorrhoids.

❖ **Causes:-**

i) Idiopathic(m.c) ii) Hereditary iii) chronic Constipationiv) Portal hypertension
v) Carcinoma of the colon or rectum vi) Anal infection vii) Pregnancy(hormonal change)

❖ **Types Of Piles:-**

i) Internal:- above 5he dentate line covered by muscus membrane (painless bleeding
ii) External:- an anal verge ,covered with skin (painful bleeding)
iii) Intero-external :-both varieties together

❖ **Clinical Feature:-**

- Painless Per rectum bleeding after defection (mc)
- Mass Per Rectum
- Pruritis
- Discharge
- Anaemia

❖ **Investigation:-**Proctoscopy is essential to diagnose stage I and II haemorrhoid.

Degree Of Haemorrhoids		
Degree	**Sign/Symptomps**	**Treatment**
Ist	Painless Bleeding, but donotprolapse outside anal canal	Seiz bath (37-42)
IInd	Bleeding, it prolapse during defecation but returns back spontaneously	Sclerotherapy, bandaing,Seiz bath
IIIrd	Piles that prolapse during defecation and can be replaced back only by manual help.	Haemorrhoidectomy/ Laser therapy
IVth	Piles that permanently prolapse.	Haemorrhoidectomy/ Laser Therapy

❖ **Complication**

- Profuse bleeding
- Strangulation
- Thrombosis
- gangrene

ACUTE ABDOMEN

- Acute abdomen is the emergency condition charterised by

1. Sudden onset of severe abdominal pain.(1st symptom or important symptom)
2. Abdominal distention and anorexia
3. Rapidly deteriorating general condition.
4. Nause vomiting
5. Fever

❖ **Causes:**

1)Appendicitis, Cholecystitis, Pancreatitis, Peritonitis, Salphangitis
2) Peptic ulcer, Typhoid Fever, Perforated Uterus, Ectopic Pregnancy
3) Intestinal Obstruction, Ureter and Biliary tract obstruction

❖ **Management:-**

❖ **General Management**

1. Nil Per Oral
2. Hospitlization
3. I/V Fluid maintain
4. Input and output chart maintain
5. NG Tube suction
6. Analgesic and antipyretic
7. 1st Dose of Antibiotics

❖ **Specific Management**

Treatment of Cause

ACUTE APPENDICITIS

- It is an acute inflammation of vermiform appendix.
- It is uncommon before the age of two and over the age sixty. People of all age and sex are affected, but it is more common in male below the age of 30.
- Most commom position:-Retroceal 74%, pelvic 21%

❖ **Causes:-**

1) Obstructive:- Obstruction of appendix due to faecolith, worms, cyst of entamoeba, stricture, distal colon obstruction, tumors, etc.
2) Non obstructive:- it is due to bacteria like e.coli, proteus, psedomonas, etc.

❖ **Clinical Feature:-**

❖ **Symptomps**

- Periumbilical pain radiating to right illiacfossa (RIF)
- Nausea/ vomiting
- Low grade fever
- Severe pain, colickly
- Tongue dry coated

❖ **Signs**

- Cough Tenderness
- Rebound Tenderness(realising sign/blumergs sign)
- Gaurding/rigidity
- Psoas Sign
- Obturator Sign
- Rousing Sign

❖ **Lab Investigation**

- DC- Neutrophill>80%
- USG Abd.:-confrim diagnosis (common)
- CT scan (best)
- Best diagnosis by :- physical examination

Note :-murphy traid syndrome (pvt) pain ,vomiting and tempreture (fever)

<5→ Not sure
5-6→Compactible
6-9→ Probable
>9→ Confirm

- ❖ **Treatment:-**Emergency Appendectomy (within 48hour onset of symptoms and before formation of lump)
- ❖ **Complication:-**
- **perforation**
- Rupture of Appendix- Peritonitis
- Appendicular mass/ lump
- Appendicular abscess

Note

- Appendicitis is Best Diagnosed by Physical Examination
- Tenderness is Present At Mc. Burneys Point.

ALVARDO SCORING:- MANTRELS	
Sign/Symptomps	**Score**
Migration of pain	1
Anorexia	1
Nausea/Vomiting	1
Tenderness	2
Rebound tenderness	1
Elevated temprature	1
Leucocytosi (neutrophilia)	2
Shift to left	1
Total	10

ACUTE CHOLECYSTITS

- ➢ Inflammation of gall bladder is called cholecystitis.
- ❖ **Causes:-**

1. Obstruction:- Gall stone(95%,)
2. Infection:- E. Coli (M.C), staphylococcus, streptococcus,salmonella etc

- ❖ **Predisposing Factor of Cholecystitis:- 4F**

1.Female 2.Forty 3.Fatty 4.Fertile

- ❖ **Clinical Feature:-**
- ➢ Sudden Onset of pain over right hypochondrium which may radiating to the right infrascapular region
- ➢ Tenderness, Guarding, Rigidity
- ➢ Pain aggravated with fatty food
- ➢ Jaundice
- ➢ Fever
- ➢ Nausea/Vomiting
- ➢ Tachycardia
- ❖
- ➢ **Murphy's Sign:- Positive:-** Respiratory arrest with deep palpation on RUQ during deep inspiration
- ➢ **Boas Sign:- Positive:-** Hyperactive of right soulder.
- ➢ Palpable tender gall bladder

Lab Investigation:-

1) TC DC-Neutrophil
2) USG :-confrim diagnosis
3) Plan x- rays abdomen (radio-oblique shadow)
4) Liver function test:- total billibriun . alkaline phosphatase increased

Treatment:-

1. Conservative treatment
   i. NPO
   ii. IV Fluid
   iii. Input and output chart maintain
   iv. Monitor regular vital sign
   v. Analgesic and antipyretic
   vi. Antibiotics:- inj.ciprofloxacine iv + inj.metrondazole or inj.ampicilline +gentamycine+metronidazole

➢ Csymptoms subside within 48-72 hour .elective holecystectomy (After 6 Week)

❖ **Complication**

- Perforation (m.c.)
- Empyema
- Chronic cholecystitis

ACUTE PANCREATITIS

➢ Acute inflammation of Pancreas associated with abdominal pain and raised amylase level in the blood and urine

❖ **Causes:**

1.Alcoholism(30%)
2.Biliary tract disease(gall stone)
3.Trauma
4.Infection-mumps ,coxsakie
5.Drugs (Thiazide, Steroids, OCPs, etc)
6.auto immune disease
7.metaboliccauses :-hyperparathyrodisum , hypercalcemia,hypothermia etc

❖ **Clinical Feature:-**

a. Sudden onset of upper abdominal pain radiating to the back
b. Vomiting (Projectile Vomiting)
c. Fever
d. Haematomesis-blood present in vomit ,melina (black stool)-blood present in stool
e. Cyanosis
f. Tenderness intially localized later diffused/ generalised
g. Feacture of hypovolemic shock

❖ **Signs:-**

1. Cullen sign – positive
2. Grey turner Sign – Positive
3. MohommedPrayers Sign/ Position
4. Tender in epigastrium and all over the abdomen
5. Bowel sound reduced and abscent

❖ Investigation

- TC(increased), DC (neutrophila),blood sugar:-incresed
- Serum amylase and lipase :-incresed

❖ Ranson's criteria is related to assessment of condition of patient

- A:- age more 55 year
- B:-blood glucose >200 mg%
- C:- WBC count >16000/cmm
- D:-(LDH) lactate dehydrogenase>350 IU per liter
- E:-enzyme (SGOT or AST):-aspartate-aminotransferase >200 IU per liter

❖ 48 hour after admission

- A: arterial blood gas <60 mmhg
- B: blood urea nitrogen >5 mg%
- C:serum calcium<8mg %

- D:base deficit >4 mmmol per liter
- E:haematocrite (erythrocyte) fall > 10%
- F: fluid sequestration >6 liter

Management:-

General Management
Symptomatic Treatment
Surgery if Needed- Abscess, Necrosis,pancreatitis associated with gall stone ,pseudo pancreatic cyst

Complication:-

1.haemorrhagic pancreatitis
2.chronic pancreatitis
3.Pancreatic Abscess
4.necrotizing pancreatitis
5.hypovlomic shock etc
Note-serum amylase and lipase increased

Acute peritonitis

- Acute inflammation of the peritoneal cavity is called as acute peritonitis

❖ **Causes**

- Microorganism or chemical enter into peritoneal cavity

❖ **Symptom**

- Sudden sever abdominal pain
- N/V
- Abdominal distension
- Absulate constipation

❖ **Sign**

- Dehydration and anxious look
- Blood pressure may be low
- Bowel sound dismissed

❖ **Treatment**

- Same as acute abdomen

❖ **Complication**

- Septic shock
- Multi organ dysfunction
- Death

INTESTINAL OBSTRUCTION(SMALL BOWEL OBSTRUCTION)

- It is the blockage of normal propulsion and passage of intestinal content.

Causes:-

- Volvolus(mc)
- Intussuception-CHILD
- Clump of Round Worm
- Paralytic Ileus
- Gall stone
- Stricture
- Adhesion/ Strangulated Hernia-ADULT
- Imperforated Anus

Clinical Feature

- ❖ Abdominal pain initially colickly intermittent later continous and sever
- ❖ Vomiting
- ❖ Dehydration
- ❖ Restlessness and Changing position frequently.

Treatment:-

1) Gastric Lavage
2) Fluid Eletrolyte Balance
3) ImmidiateLaprotomy:- Resection &anatomosis

Complication:-

Peritonitis, hypovolamic Shock, Renal Failure, ARDS, Intraabdomianl Abscess Formation

RETENTION OF URINE

- Inability to pass urine collected in the urinary bladder is called retention of urine

Treatment:-

- Hot water formention to the suprapubic region
- Provide Privacy
- Run tap Nearby
- Make patient to stand and pass urine
- Cathetarzation
- Treat the underlying causes

HAEMATURIA

The presence blood in urine either in microscopic or macroscopic form is called Haematuria.

Causes:-

1. **In Kidney:-** Stone/Calculi, Tuberculosis, Trauma, Malignancy, Glomurelonephritis, etc
2. **In Ureter:-** Stone, Trauma
3. **Bladder**:- Stone, Tuberculosis, Cystitis, Tumor, etc.
4. **Urethra**:- Stone, Tumor, Injury, BPH, Carcinoma, etc

Investigation:- Three testube Test is Done to DignoseHaematuria.

TUMOR

Abnormal Growth of tissues is called tumor. It is of two type:

1. **Benign Tumor**:- This type of tumor is painless and they are situated at Specific place.
2. **Malignant Tumor**:- This type of tumor are painful and they can be metastasis. It is different type according to their origin, they are:-

a. **Carcinoma**:- Malignancy of epithelial cell.
b. **Sarcoma**:- Malignancy of Connective tissue.
c. **Lymphoma**:- Malignancy of lymph.
d. **Myeloma**:- Malignancy of muscle.
e. **Lipoma**-cancer of lipid
f. **Hepatoma**–cancer of liver

HEAD INJURY

Causes:-Fall From Height, Road Traffic accident, Blunt trauma or scalp, etc.

Types:-

I. Injury to the Scalp
II. Injury to the skull
III. Injury to the brain

Clinical Feature

Scalp injury:-

Bleeding,haematoma, headache etc
ABC maintenance +wound care

Skull injury:-

- Bleeding or CSF from mouth, nose, ear,headache
- Choice of investigation:- X-rays
- ABC maintenance+ bleeding control +refer to higher center

Brain Injury:-

- Coma, headache, Vomiting, Vertigo, Pupil dilated, dysponea, tachycardia/bradicardia, convulsion, paralysis, death
- Choice of investigation:-CT scan
- ABC maintenance+bleedingcontrol+refer to higher center

Treatment of Brain Injury:- Rest, ABC Clear, Treatment of Wound, Refer

Note:-GCS is related to prognosis of head injury

GLOSGOW COMA SCALE

1. Eye Opening -4	2. Verbal Response-5	3. Best Motor Response-6
Spontaneous -4	Oriented-5	Obeys commond-6
To speech-3	Confused conversation -4	Localized pain-5
To pain-2	Inappropriate words-3	Withdraws from pain by means of flexion -4

No response-1	Incomprehensible word-2	Exhibits abnormal extension-2
	No response-1	No response-1

- **Best score/maximum score** :-15

1.Minimum/death score:-3 2.Mild injury:-13-14

3.Moderate injury:-9-12 4.Sever injury:-<8

ANAL FISSURE

- Longitudinal tear in the end of anal canal results in fissure in anal
- Commonly seen in young patients.
  - 90% of fissure in ano occur in the posterior part of anal canal and 10% anteriorly.

Causes:-

i)Hard Stool(mc)
ii)Haemorrhoidectomy
iii)Crohn's Disease
iv)Repeated Child Birth

Clinical Feature:-

i)Severe Pain During Defecation, Burning in Nature lasting for about ½ to 1 hour because of which defecation is postponed.
ii)Dew drop bleeding
iii)Severe constipation is present

NOTE:- Drop of blood is due to fissure in Ano\ Splash or blood is due to Haemorrhoid

Treatment:-

1) **Conservative:-** Avoid constipation, surface lingocaine application, Antibiotics &Metronidazole and Seiz bath
2) **Surgical treatment:-** Lateral spincterectomy

GANGRENE

- Macroscopic Death of Tissue with supuratedputerefication. It mainly Effects the Limb, Intestine, Appendix, Etc.

Types:-

1. **Dry Gangrene**(Non infective Gangrene)**eg:- lower limbs etc**
2. **Moist Gangrene(**Infective Gangrene)**:-intestine etc**
3. **Gas Gangrene**
   - **Causative agent**
     - clostridumperfinges
     - clostridumwelchi
     - Clostrium spectrum

Clinical Feature:-

- The Part looks Black or Pale
- It has no arterial pulse
- It has no sensation
- It has loss of temprature

SINUS:- It is a blined track leading from the surface down into the tissue. It is lined with granulation tissue.
(One way opening)

FISTULA:- It is an abnormal communication between the lumen of one viscous and lumen of another or communication of one hollow viscous with the external surface.(two way opening)