* Inflammatory Bowel Disease *

Unit-4

IBD represent a group of intestinal disorde that cause prolonged inflammation of the digestive tract.

* Classification →

① Ulcerative colitis → (आंत्रशोथ आंत्रार्ती सूजन)

Ulcerative colitis is a disease that cause mucosal inflammation

② Chron's disease → (GIT)

Chron's disease is a remitting inflammatory disease.

* Epidemiology →

- In the United states, it is currently estimated that about 1-1.3 million people suffer from IBD
- Ulcerative colitis is slightly more common in males, while Crohn's disease is more frequent in women.

* Etiology →

- Infectious agents
  - Viruses (measles)
  - Bacteria (Mycobacteria)

- Genetics →
- Environmental Factor →
  Diet,
  Smoking
- Psychological Factors →
  Stress,
  physical and emotional trauma.

* Pathophysiology →

- Dietary (आहारातीत) and bacterial antigens penetrate into the intestinal wall and activates the immune system.
- This cause increased production of pro-inflammatory.

* Clinical Symptoms →

Clinical Symptoms are same in both cases :-

1. Diarrhoea
2. Abdominal pain
3. Low fever
4. Decreased Appetite
5. Fatigue
6. Weight loss

* Diagnosis →

1. Endoscopy
2. Biopsy
3. Radiology
4. Blood Test

* Goals of treatment →

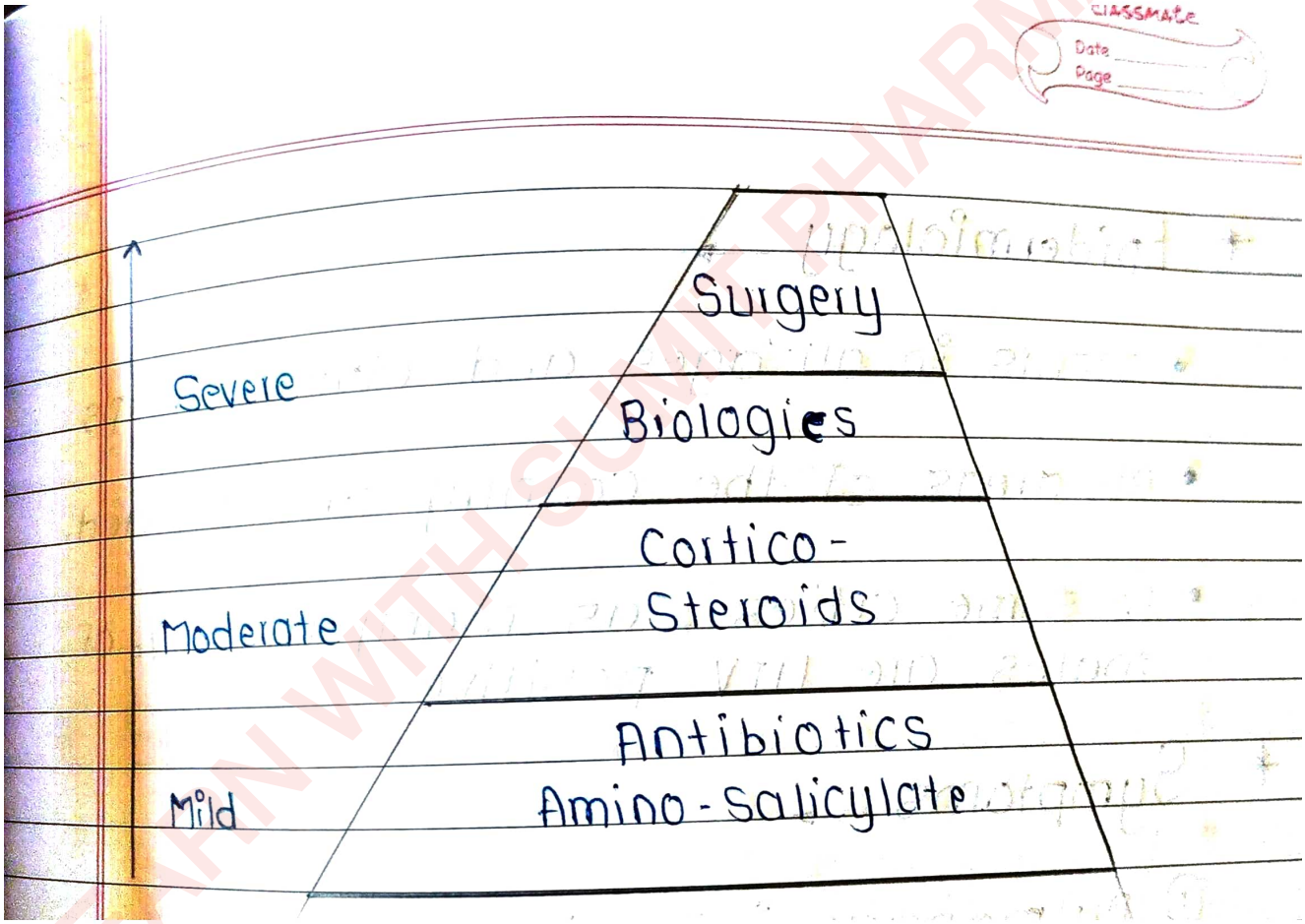
1. Maintain or improve quality of life
2. Acute attack
3. reduce Complication
4. Avoid Surgery if possible
5. Replacement of Vitamin A, D, E, K

* Non-Pharmacological treatment →

1. To avoid Smoking
2. To reduce alcohol consumption.
3. To avoid Spicy / oily food.

* Pharmacological treatment → (drugs)

1. Aminosalicylates
2. Corticosteroids
3. Antimicrobials
4. Immunosuppressive agent
5. TNF - Tumor Necrosis factor.



* Jaundice *

Definition →

Jaundice is yellowish discolouration of the skin, sclera and mucous membranes due to hyperbilirubinemia and deposition of bile pigment.

- Serum bilirubin level greater than 2 mg/dL

Bilirubin →

Bilirubin is a yellowish pigment found a bile), a fluid made by the liver.

- Produced by reticulo-endothelial system.
- Released to plasma bound to albumin.

* Types of Jaundice →

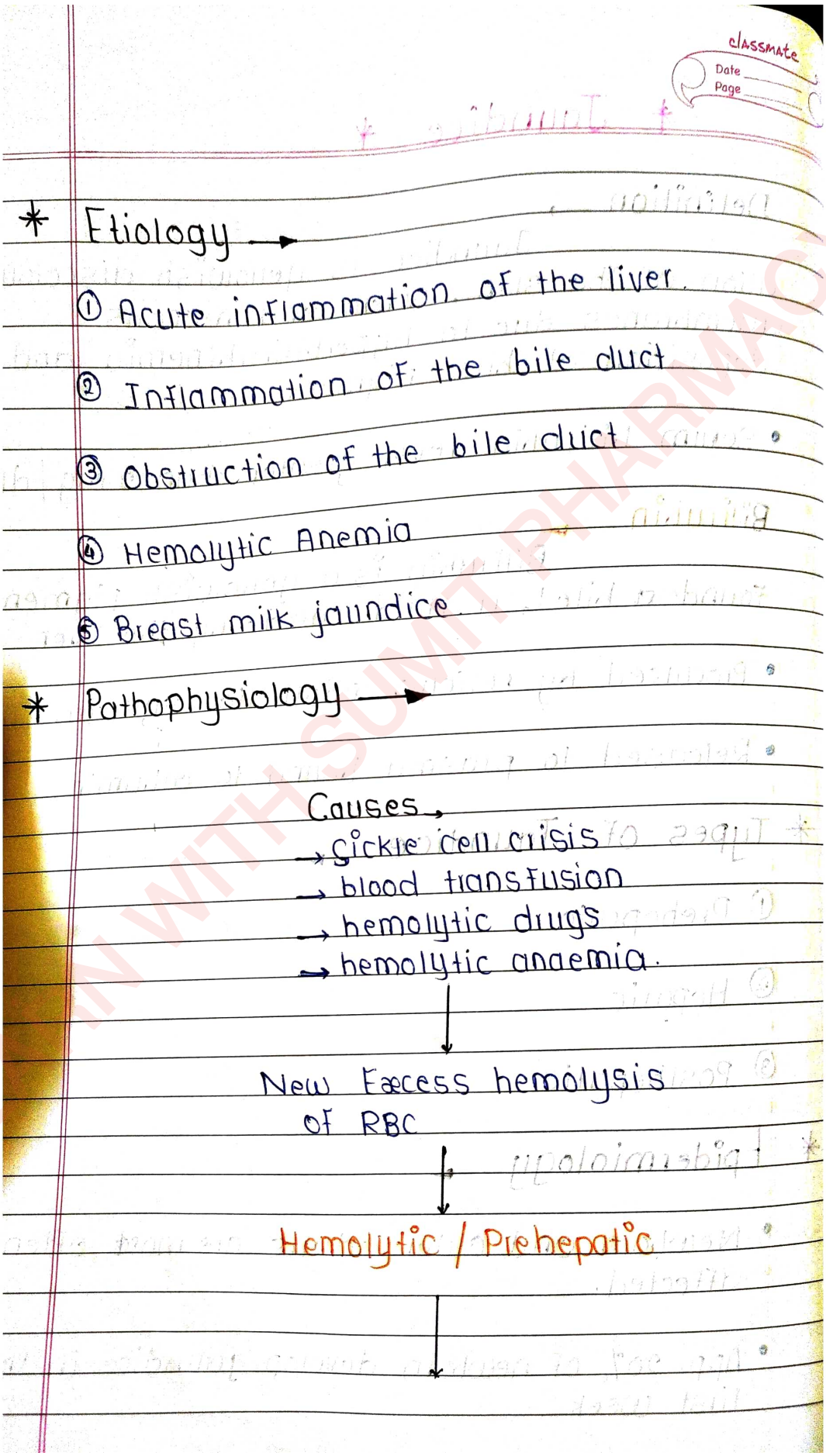
① Prehepatic

② Hepatic

③ Posthepatic

* Epidermiology →

- Newborn and older adults are most often affected.
- App. 20% of newborn develop jaundice in the first week.



unconjugated hyper-bilirubinemia

Jaundice

Gilbert Syndrome

hyperbilirubinaemia

Hepatic

Damaged hepatocytes

Causes →
- hepatitis,
- hepatic Carcinoma

Conjugated hyperbilirubin...

Intrahepatic

Swelling, Fibrosis

Posthepatic

Causes →
- Cirrhosis,
- hepatitis,
- pancreatic Carcinoma

* Signs and Symptoms →

yellow discoloration of skin, mucous memb. and the whites of the eyes.

- dark coloured urine
- Vomiting

- Abdominal pain
- Fever
- Weakness
- loss of Appetite
- headache
- Confusion

* Diagnosis →

- Abdominal ultrasound
- Abdominal CT Scan
- MRI Scan

* Treatment →

① Supportive care
② Antibiotics
③ Phototherapy
④ Chemotherapy

* Rheumatoid Arthritis *

Rheumatoid Arthritis chronic systemic autoimmune disorder causing a symmetrical polyarthritis.

* Epidemiology →

RA affects 0.5-1% of the population world wide bet^n the age 30 and 50 years.

* Etiology →

- **Gender →**
  Women before the menopause are affected three times more often than men.

- **Familial →**
  There is an increased incidence in those with a family history.

* Pathology →

Generation of new synovial blood vessels is induced by angiogenic cytokines.

Activated endothelial cells produced adhesion molecules.

The Synovium proliferates and grows out over the surface of cartilage.

* Clinical Features →

onset of pain

Early morning stiffness

Swelling in the small joints of hands & feet

* Complications →

① Ruptured tendons
② Ruptured joints
③ Joint infection
④ Spinal cord compression

* Management →

① No treatment cures RA
② Remission of Symptoms

* Cancer *

- Neoplasia means 'new growth'.
- Neoplasm means 'tumor / cancer'

Cancer is an uncontrolled proliferation of cells.
It can be benign or malignant

- Benign → (सौम्य)
  Cells grow as a compact mass and remain at their site of origin.

- Malignant → (घातक)
  Growth of cells is uncontrolled cells can spread into surrounding tissue

* Cellular Adaptations →

- Atrophy →
  Reduction of number and size of parenchymal cells of an organ, called Atrophy.
  e.g...
  ischemic atrophy.

- Hypertrophy →
  Increase is an size of the parenchymal cells resulting in enlargement of the organ, called hypertrophy.

e.g..
hypertrophy of cardiac muscle

- **Hyperplasia** → Increased number of parenchymal cells resulting in enlargement of organ.

e.g....
Wound healing

- **Dysplasia** → Disordered cellular development accompanied with metaplasia and hyperplasia.

e.g...
~~Squamous and columnar m~~

- **Metaplasia** → Reversible changes in one type of epithelial or mesenchymal adult cell

e.g..
Squamous and columnar metaplasia.

	Benign	Malignant.
①	Diploidy	Range of ploidy
②	Retention of Specialis°	loss of Specialisation.
③	Organised	Not organised.
④	low mitotic count.	low to high mitotic count

* Causes of Cancer →

① Chemical Carcinogenesis →
- Mutagenes.
- chemical carcinogenesis and other metabolism.

② Physical carcinogenesis → (radiation)
- Ultraviolet radiation.

③ Infectious Pathogens → (viral)
- Human T-Cell leukemia viruses.

* Development of Cancer →

① Changes in DNA

② The change in cell growth.

③ The change must be non-lethal.

④ Alteration in more than one gene.

⑤ Intrinsic and extrinsic factor.

* Properties of cancer cells →

① Ability to invade locally

② Capacity to metastasize to distant sites to

distant Sites Cancer Spreading

* Characteristics of tumour →

① Rate growth →

The tumour cell proliferate more rapidly than the normal cells.

① Rate of growth of tumour depends upon →

- mitotic rate of tumour cells.
- Number of cells remaining in preoperative pool.
- Rate of loss of tumour cells by cell shedding

② Degree of differentiation →

- Rate of growth of malignant tumour is directly proportionate to the degree of differentiation.
- Differentiated tumours show aggressive growth pattern.

② Cancer phenotype and Stem Cells →

Cancer cells

① disobey the growth contriol → proliferate rapidly

② Escape from death signals → immortality

③ lose differentiation properties → No Fun

④ are unstable → newer mutations

③ Clinical and gross features →

① Benign tumour are generally slow growing and depending upon location.
- Begnign tumour are generally spherical or ovoid shape

② Malignant tumour grow rapidly.
- malignant tumour usually irregular in shape.

④ Microscopic features →

① Microscopic pattern.

② Cytomorphology of neoplastic cells.

③ Inflammatory reaction.

⑤ local invasion → (Direct spread)

- Benign → expand and push aside without invading, infiltration.
- Malignant → expand, invasion, infiltration.

⑥ Metastasis → (Distant Spread)

Meta → transformation
Stasis → residence

Routes of metastasis →

① Lymphatic spread
② Haematogenous spread

* Gonorrhea *

Gonorrhea →
Gonorrhea is one of the common and highly contagious seaually transmitted diseases, which is differ in males and females.

* Epidermiological features →

① Agent → {factor

ⓐ Agent
ⓑ Reservoir of infection
ⓒ Sources of infection
ⓓ Period of communicability

② Host factors →

ⓐ age

(b) Sex
(c) High risk groups
(d) Susceptibility & resistance

* Mode of transmission →

① Sexual transmission
② Congenital or vertical transmission
③ Transmission from fomites

* Pathogenesis →

① The common method of transmission by sexual intercourse.

② The risk of men contracting infection varies with the number of exposure with infectious female.

* Treatment →

large dose of intramuscular penicillin is used as the treatment therapy for gonorrhea.

* Prevention →

Sexually transmitted disease can be prevented by condom use.

* Control →

- Rapid diagnosis
- use effective antibiotics