**Large intestine (Hemorrhoids, Malabsorption Syndrome)**

Histologically, the wall of large bowel consists of 4 layers as elsewhere in the alimentary tract—serosa, muscularis, submucosa and mucosa. The mucosa lacks villi and there is preponderance of goblet cells over columnar epithelial cells. The lymphoid tissue is less abundant than in the small bowel but lymphoid follicles are seen in the caecum and rectum.

**HAEMORRHOIDS (PILES)**

Haemorrhoids or piles are varicosities of the haemorrhoidal veins. They are called internal piles if dilatation is of superior haemorrhoidal plexus covered over by mucous membrane, and external piles if they involve inferior haemorrhoidal plexus covered over by the skin. They are common lesions in the elderly and in pregnant women. They commonly result from increased venous pressure. **Their possible causes include: -**

1. Portal hypertension

2. Chronic constipation and straining at stool

3. Cardiac failure

4. Venous stasis of pregnancy

5. Hereditary predisposition

6. Tumors of the rectum.

***Microscopically,*** thin-walled and dilated tortuous veins are seen under the rectal mucosa (internal piles) or anal skin (external piles).

Secondary changes and complications that may occur include: thrombosis, haemorrhage, inflammation, scarring and strangulation (prolapsed piles).



Figure -1- External piles. There are thrombosed veins underneath

the squamocolumar anorectal mucosa.

**MALABSORPTION SYNDROME**

malabsorption syndrome (MAS) is characterized by impaired intestinal absorption of nutrients especially of fat; some other substances are proteins, carbo hydrates, vitamins and minerals. MAS is subdivided into 2 broad groups:

**--Primary MAS**, which is due to primary deficiency of the absorptive mucosal surface and of the associated enzymes.

**--Secondary MAS,** in which mucosal changes result secondary to other factors such as diseases, surgery, trauma and drugs.

**CLINICAL FEATURES**

The clinical manifestations of MAS vary according to the underlying cause. However, some common symptoms are as follows:

1. Steatorrhea (pale, bulky, foul-smelling stools)

2. Chronic diarrhea

3. Abdominal distension

4. flatulence

5. Anorexia

6. Weight loss

7. Muscle wasting

8. Dehydration

9. Hypotension

10. Specific malnutrition and vitamin deficiencies depending

upon the cause.

**INTESTINAL MUCOSAL BIOPSY**

**Normal villous (Fig. 2,A)** Under the dissecting microscope, the normal jejunal mucosa has tall, slender, finger-shaped or leaf-shaped villi. It is lined by tall columnar absorptive epithelium and has scattered lympho- cytes in the lamina propria.

**Villous atrophy** Variable degree of flattening of intestinal mucosa in MAS is the commonest pathological change in mucosal pattern and is referred to as villous atrophy. It may be of 2 types—partial and subtotal/total type. Partial villous atrophy is the mild form of the lesion in which villi fuse with each other and thus become short and broad, commonly called as convolutions and irregular ridges

**(Fig. 2,B)**. The epithelial cells show compensatory hyperplasia suggesting a turnover of these cells

**(Fig. 2,A)**. Lamina propria shows increased cellular infiltrate, predominantly of plasma cells.

Partial villous atrophy is commonly found in children and adults with diarrhea, parasitic infestations, Crohn’s disease, ulcerative colitis and mal absorption due to drugs and radiation injury.

*Subtotal/Total villous atrophy* is the severe form of the lesion in which there is flattening of mucosa due to more advanced villous fusion **(Fig. 2,C)**. The surface epithelium is cuboidal and there is increased plasma cell infiltrate in the lamina propria **(Fig. 2,B)**.



Fig. 2Jejunal biopsy diagrammatic appearance in malabsorption syndrome.