

Gastrointestinal System

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Symptoms

1. Abdominal pain



Non –organic pain :

- periumbilical in location ; doesn't disturb the child's sleep and play
- of very short duration (a few minutes)
- pain periods may cluster for a few days and then pain-free periods for many weeks

Organic pain:

- pain that awakens the child
- organomegaly
- weight loss
- pain location other than periumbilical
- extraintestinal manifestations (eg.arthritis may indicate inflammatory bowel disease; altered sensorium following abdominal pain may indicate seizure, migraine, porphyria)

Pain in different quadrants of abdomen

1. Epigastric pain

- Retrosternal burning, aggravated by lying down and by acid foods : peptic ulcer
- Pain radiating to retrosternally upwards : gastroesophageal reflux, oesophagitis
- Pain worsens on lying down and relieved by sitting up : hiatus hernia, pancreatitis

2. Right hypochondrial pain

- hepatic in origin (eg.hepatitis)
- recurrent colicky right upper quadrant pain, which may radiate to the back, right scapula, arm or neck : cholecystitis, cholelithiasis
- other causes of upper abdominal pain : referred pain of pneumonia, pancreatitis

3. Lumbar : renal origin

- pain starts in the loin, radiating to the groin and sometimes towards the genitalia and inner thigh : ureteric colic

4. Right lower quadrant : appendix, caecum etc.
 - pain, vomiting, fever, pain maximally localised to McBurney's point : acute appendicitis
5. Left lower quadrant : chronic constipation, inflammatory bowel disease, etc.
6. Suprapubic pain : cystitis
7. Abdominal pain with a palpable mass : roundworm mass, chronic constipation, tuberculous abdomen, intussusception
8. Psychogenic: precipitating factor is identified

2. Vomiting

- Intestinal obstruction, inflammatory bowel disease, gastroenteritis, disorders of liver
- Projectile vomiting : idiopathic pyloric stenosis
- Bilious : distal to ampulla of Vater
- Non-bilious : proximal to ampulla of Vater



Contents	Conditions
Food particles undigested	Gastric outlet obstruction
Blood tinged	Gastric or mucosal damage
Bile tinged	Intestinal obstruction distal to ampulla of Vater
Faeculent	Gastrocolic fistulas, distal intestinal obstruction

- Persistent non-bilious vomiting in a 2-3 week old infant : congenital hypertrophic pyloric stenosis
- Bilious vomiting in newborn : lower obstruction like duodenal atresia
- Early morning projectile vomiting with headache : raised intracranial tension

3. Diarrhoea

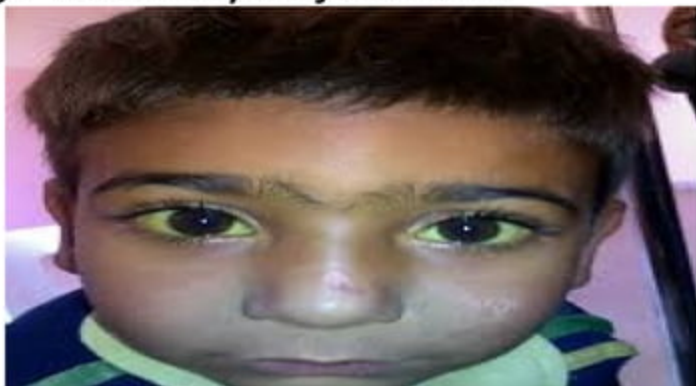
Nature of stool	Possible causes
Watery stools	Secretory diarrhoea Rotavirus infection
Rice-water stools	Cholera
Foul-smelling stools	Fat malabsorption
Blood-stained stools	Dysentery due to Shigella, enteroinvasive E. Coli Ulcerative colitis

4. Constipation

- Onset since birth : hypothyroidism
- Acute onset without preceding symptoms :
intestinal obstruction

5. Jaundice

- Greenish yellow jaundice, clay coloured stools, high coloured urine, itching : obstructive jaundice
- Lemon yellow jaundice, normal coloured stools, normal coloured urine while passing, no itching : haemolytic jaundice



6. Haematemesis (bleeding in upper GI)

- Oesophagitis
- Gastric erosions
- Rupture of oesophageal varices
- Mallory-Weiss tear

7. Melaena

- bleeding in the GIT above the Ligament of Treitz

8. Hematochezia

- Usually in lower GI bleed
- Streaking of stools with fresh blood and painful defaecation : anal fissure
- Other causes : polyp, rectal varices, NSAID induced ulcer, haemorrhoids

Signs

1. Tenderness

Areas of tenderness	Condition/ organ involved
McBurney's point tenderness	Appendicitis
Tip of ninth costal cartilage on the right side	Gall bladder tenderness in cholecystitis
Epigastric region tenderness	Gastritis
Renal angle tenderness	Renal involvement
Suprapubic tenderness	Bladder involvement

2. Hepatomegaly



Causes of hepatomegaly:

- chronic liver disease : Wilson disease, chronic hepatitis B and C, autoimmune liver disease, Budd-Chiari syndrome
- metabolic or storage disorders: glycogen storage disease, Gaucher disease, Niemann-Pick disease
- infective : viral hepatitis, liver abscess, tuberculosis, salmonella, malaria, kala-azar
- tumors : lymphoma, leukemia, histiocytosis
- biliary: Caroli disease, choledochal cyst, congenital hepatic fibrosis
- miscellaneous : congestive heart failure, constrictive pericarditis, sarcoidosis

3. Splenomegaly



Causes of splenomegaly:

- portal hypertension :cirrhosis, extrahepatic portal venous obstruction, congenital hepatic fibrosis
- storage disorders: Niemann-Pick disease, Gaucher disease
- haematological malignancies : leukemia, lymphoma, histiocytosis
- increased splenic function : collagen vascular disorders, autoimmune haemolytic anaemia
- infections : malaria, enteric fever, viral hepatitis
- extramedullary haematopoiesis : osteopetrosis

4. Ascites

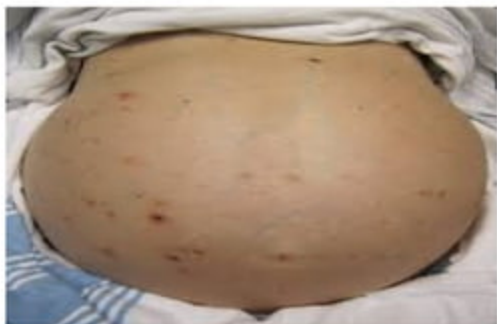
Common causes :

- Cirrhosis and portal hypertension
- Budd-Chiari syndrome
- Nephrotic syndrome
- Protein losing enteropathy : intestinal lymphangiectasia
- Tubercular ascites
- Constrictive pericarditis
- Cardiac failure
- Chylous: lymphatic obstruction, thoracic duct injury

Signs of liver cell failure

1. Jaundice

2. Ascites / edema



3. Bleeding tendencies :

- easy bruising
- purpura
- epistaxis



4. Neurological features :

- confusion
- sleeplessness
- asterixis
- hepatic encephalopathy
- coma

5. Hepatomegaly in early stages and shrinkage of liver in later stages

6. Circulatory changes

- Spider naevi (face, upper part of chest)
- Palmar erythema (Dawson's sign)



7. Endocrine changes

- Hair loss – alopecia, loss of axillary and pubic hair (adolescents and adults)



8. Fetor hepaticus

9. Skin changes

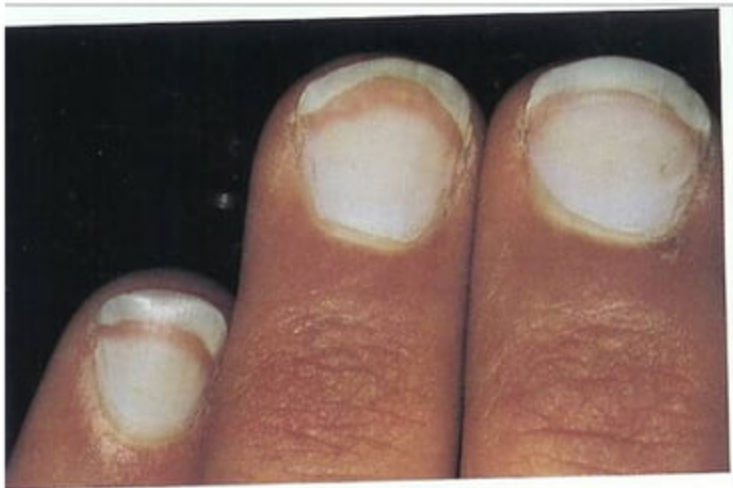
- Paper money skin
- Pigmentary changes – white spots on the arms and buttocks

10. Clubbing

11. Nail changes

-leukonychia

-Terry nails



THANK YOU!!!!