



# DYSPEPSIA

MINISAC

# Learning objectives

Causes

-1

•

2-Symptoms and alarming

features

3-Lines of investigations

**Is the term used to describe symptoms such •  
as bloating and nausea which are thought to  
originate from the upper G.I tract.**

**Dyspepsia might be due to causes and  
• problems outside the G.I tract**

# Causes:

## 1. Upper G.I disorders.

a. Peptic ulcer disease.

b. Acute gastritis.

c. Gall stones.

d. Motility disorders, e.g: oesophageal spasm.

f. Functional (non-ulcer dyspepsia and irritable bowel syndrome).

## 2. Other gastrointestinal disorders:

a. Pancreatic disease (cancer, chronic pancreatitis).

b. Hepatic disease (hepatitis, metastases).

c. Colonic carcinoma.

### 3. Systemic disease:

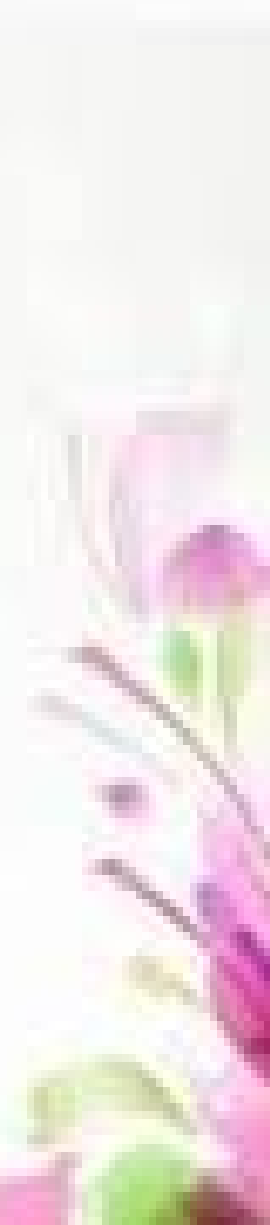
- a. Renal failure.
- b. Hypercalcaemia.

### 4. Drugs:

- a. Non-steroidal anti-inflammatory drugs.
- b. Iron and potassium supplements.
- c. Corticosteroid.
- d. Digoxin.

### 5. Others:

- a. Alcohol.
- b. Psychological e.g: anxiety, depression( heartburn and other reflux symptoms are separate entities). Symptoms often correlate poorly with the underlying diagnosis. However a careful history is important to detect "alarm" features requiring urgent investigation.



## **Alarm features in dyspepsia:**

1. Weight loss.
2. Anaemia.
3. Vomiting.
4. Haematemesis and/or melaena.
5. Dysphagia.
6. Palpable abdominal mass.

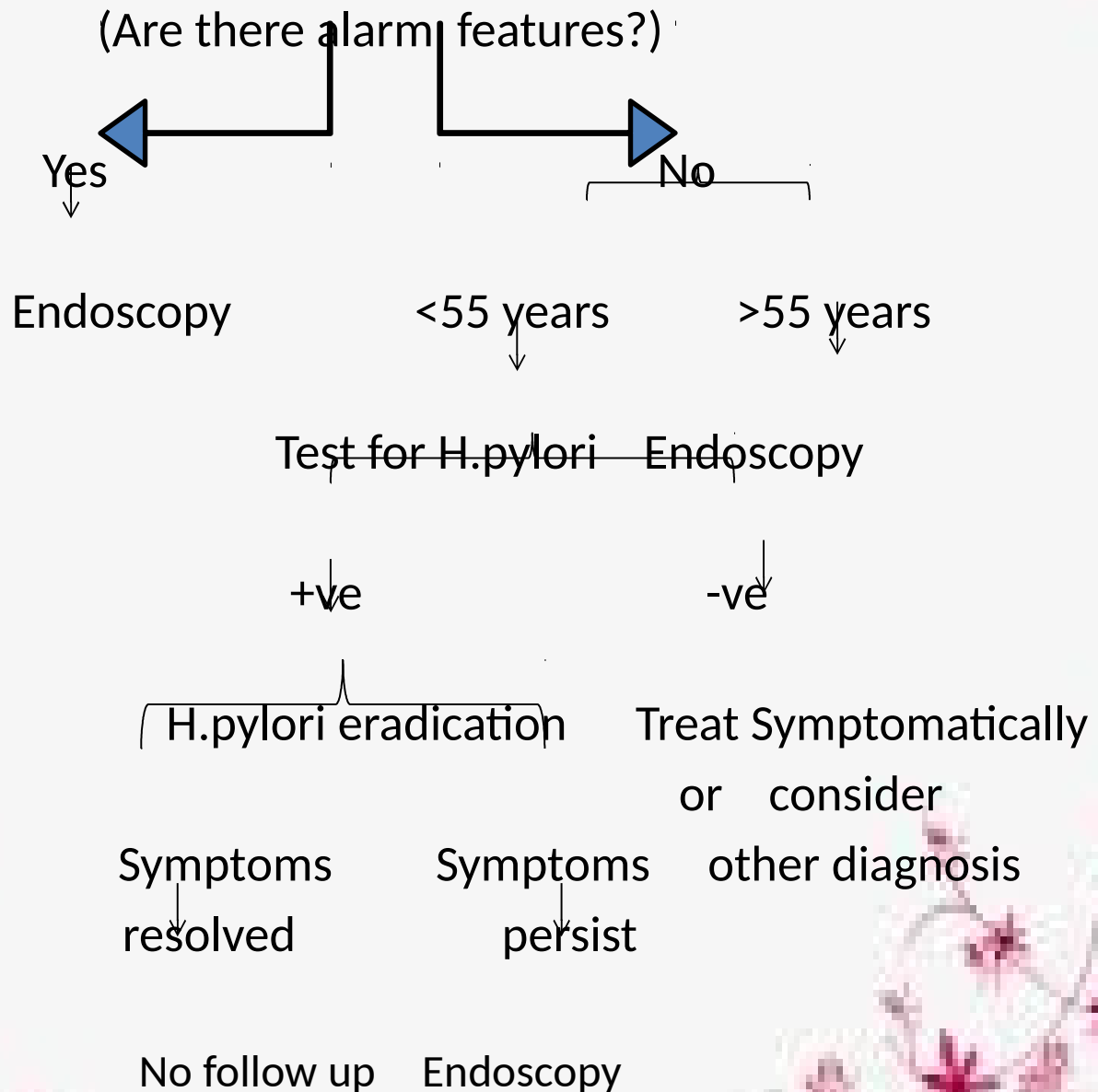
Dyspepsia affects up to 80% of the population at some time in life and many patient have no serious underlying disease.

Patients who present with new dyspepsia at an age of more than 55 years and younger patients unresponsive to empirical treatment require investigation to exclude serious disease.

The following algorithm for the investigation of dyspepsia:

**(Dyspepsia)**

(Are there alarm features?)





# Diarrhoea

Learning objectives •

Definition-1 •

Causes of acute diarrhoea -2 •

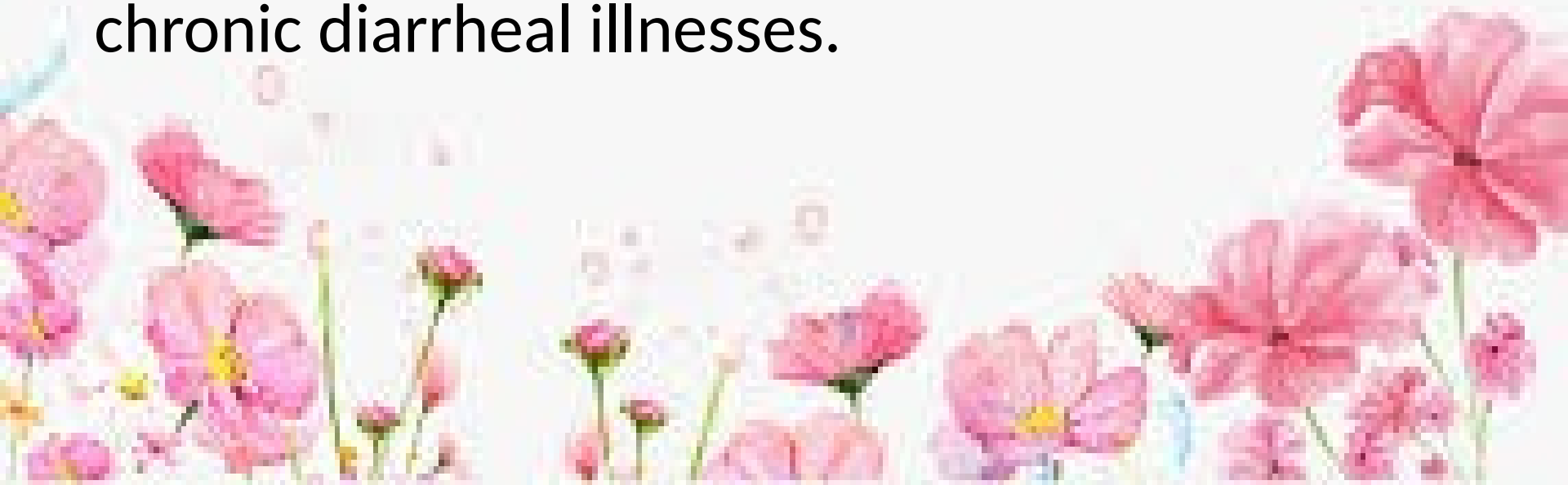
3-Clinical features of acute diarrhea

Investigations and management -4 •

5-Causes and presentations of chronic  
diarrhea

## DIARRHEA:

Define as the passage of more than 200g of stool daily. The most severe symptoms in many patients is urgency of defecation and faecal incontinence is a common event in acute and chronic diarrheal illnesses.



## Acute diarrhea:

Is extremely common, due to infectious or non-infectious causes. Infective diarrhea is usually short lived and patients who present with a history of diarrhea lasting more than 10 days rarely have an infective cause.

Causes of acute diarrhea: infectious—

### 1. Gastroenteritis:

A- Toxin in food: <6 hours incubation.

1. *Bacillus cereus*.
2. *staph. Aureus*.
3. *clostridium Spp*.

## B. Bacterial: 12-72 hours incubation:

1. vibrio cholerae.
2. Enterotoxigenic E.coli.
3. Shiga toxin producing E.coli.
4. Enteroinvasive E.coli.
5. Salmonella.
6. Shigella.
7. Campylobacter.
8. Clostridium difficile.

## C. Viral: short incubation:

1. Rotavirus
- 2- Norovirus

## D. Protozoal: long incubation-

1. Giardiasis.
2. cryptosporidium.
3. microsporidiosis.
4. Amoebic dysentery.
5. Isosporiasis.

2. Acute diverticulitis.
3. Sepsis.
4. Pelvic inflammatory disease.
5. Meningococemia.
6. Pneumonia.
7. Malaria.

Non-infectious causes:

1- Gastrointestinal:

- A. Inflammatory bowel disease.
- B. Bowel malignancy.
- C. Overflow from constipation.

2- Metabolic:

- A. Diabetic ketoacidosis.
- B. Thyrotoxicosis.
- C. Uraemia.
- D. Neuroendocrine tumours releasing VIP. Or 5-HT.



### 3. Drugs and toxins:

A. NSAID.

B. Cytotoxic agents.

C. Antibiotics.

D. Proton pump inhibitors.

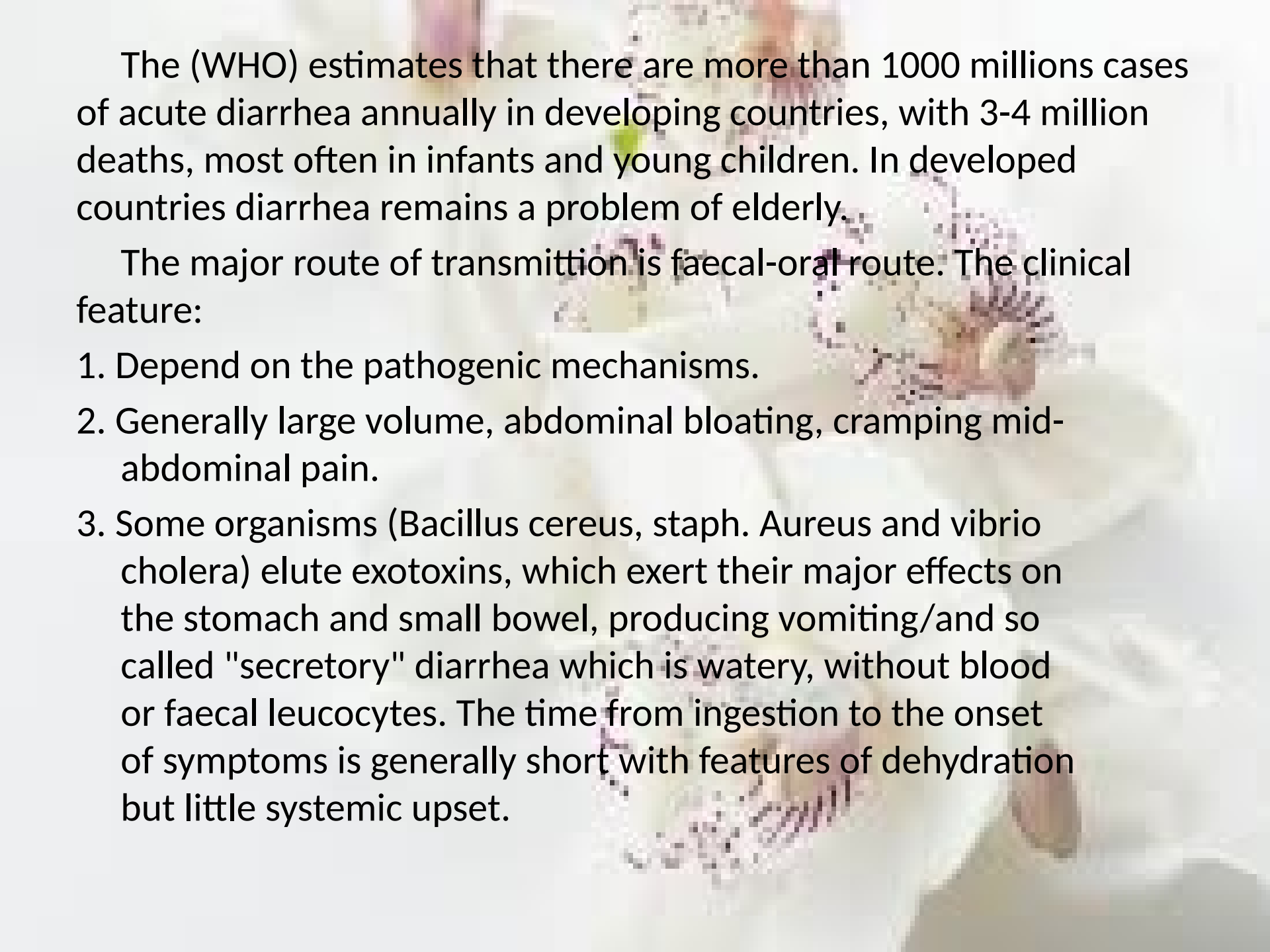
E. Dinoflagellates.

F. Plant toxins (legumes + beans) → hemolysis

G. Heavy metals (Thallium, cadmium).

H. Ciguatera fish poisoning (diarrhea + neuropathy).

I. Scombrototoxic fish poisoning (diarrhea + Allergy).



The (WHO) estimates that there are more than 1000 millions cases of acute diarrhea annually in developing countries, with 3-4 million deaths, most often in infants and young children. In developed countries diarrhea remains a problem of elderly.

The major route of transmission is faecal-oral route. The clinical feature:

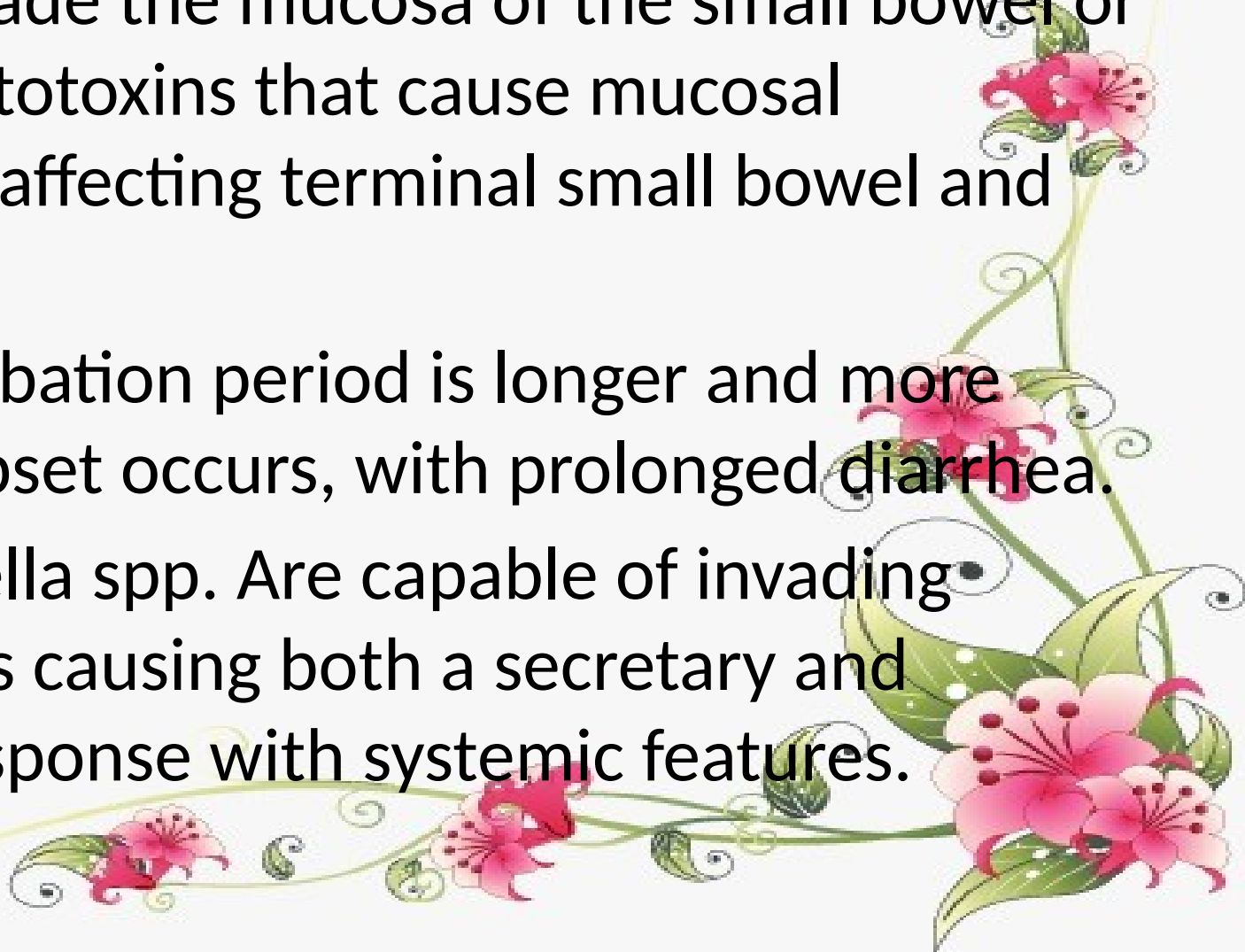
1. Depend on the pathogenic mechanisms.
2. Generally large volume, abdominal bloating, cramping mid-abdominal pain.
3. Some organisms (*Bacillus cereus*, staph. *Aureus* and *vibrio cholera*) elute exotoxins, which exert their major effects on the stomach and small bowel, producing vomiting/and so called "secretory" diarrhea which is watery, without blood or faecal leucocytes. The time from ingestion to the onset of symptoms is generally short with features of dehydration but little systemic upset.



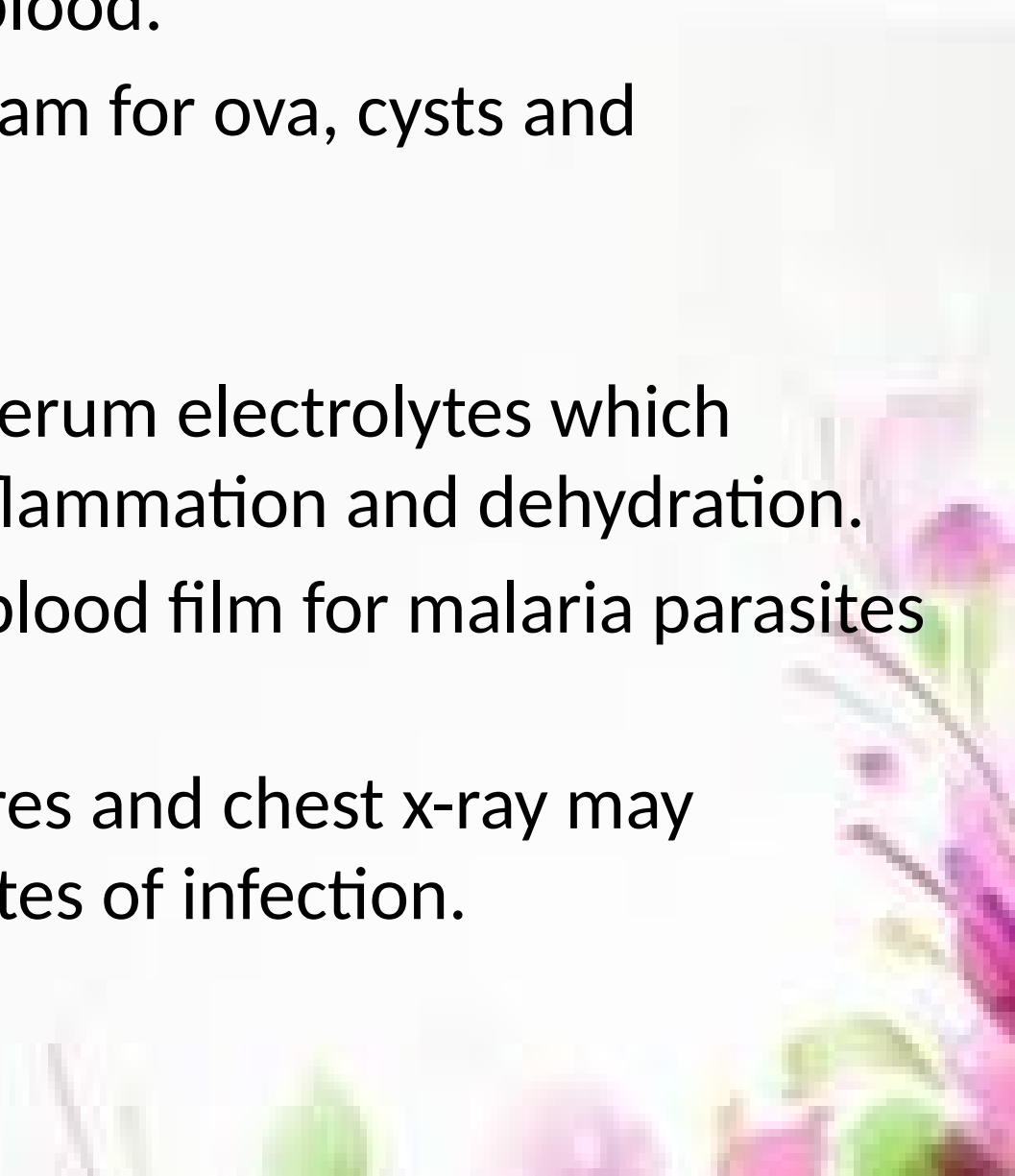
Other organism (*Shigella* spp., campylobacter Spp. and enterohaemorrhagic *E. coli*) may directly invade the mucosa of the small bowel or produce cytotoxins that cause mucosal ulceration, affecting terminal small bowel and colon.

The incubation period is longer and more systemic upset occurs, with prolonged diarrhea.

*Salmonella* spp. Are capable of invading enterocytes causing both a secretory and invasive response with systemic features.



## Investigation:

1. Stool inspection for blood.
  2. Microscopical stool exam for ova, cysts and parasites.
  3. Stool culture.
  4. Full blood count and serum electrolytes which indicate degree of inflammation and dehydration.
  5. In malarious area, a blood film for malaria parasites should be obtained.
  6. Blood and urine cultures and chest x-ray may identify alternative sites of infection.
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## Management:

1. All patients with potentially infective diarrhea should be isolated to minimize person-to-person spread of infection.
2. If history suggests a food borne source, public health measures must be included.
3. Fluid replacement: normal daily fluid intake in an adult is only 1-2L, in cholera 10-20L of fluid may be lost in 24 hours. The fluid lost in diarrhea is isotonic, so both water and electrolytes need to be replaced.

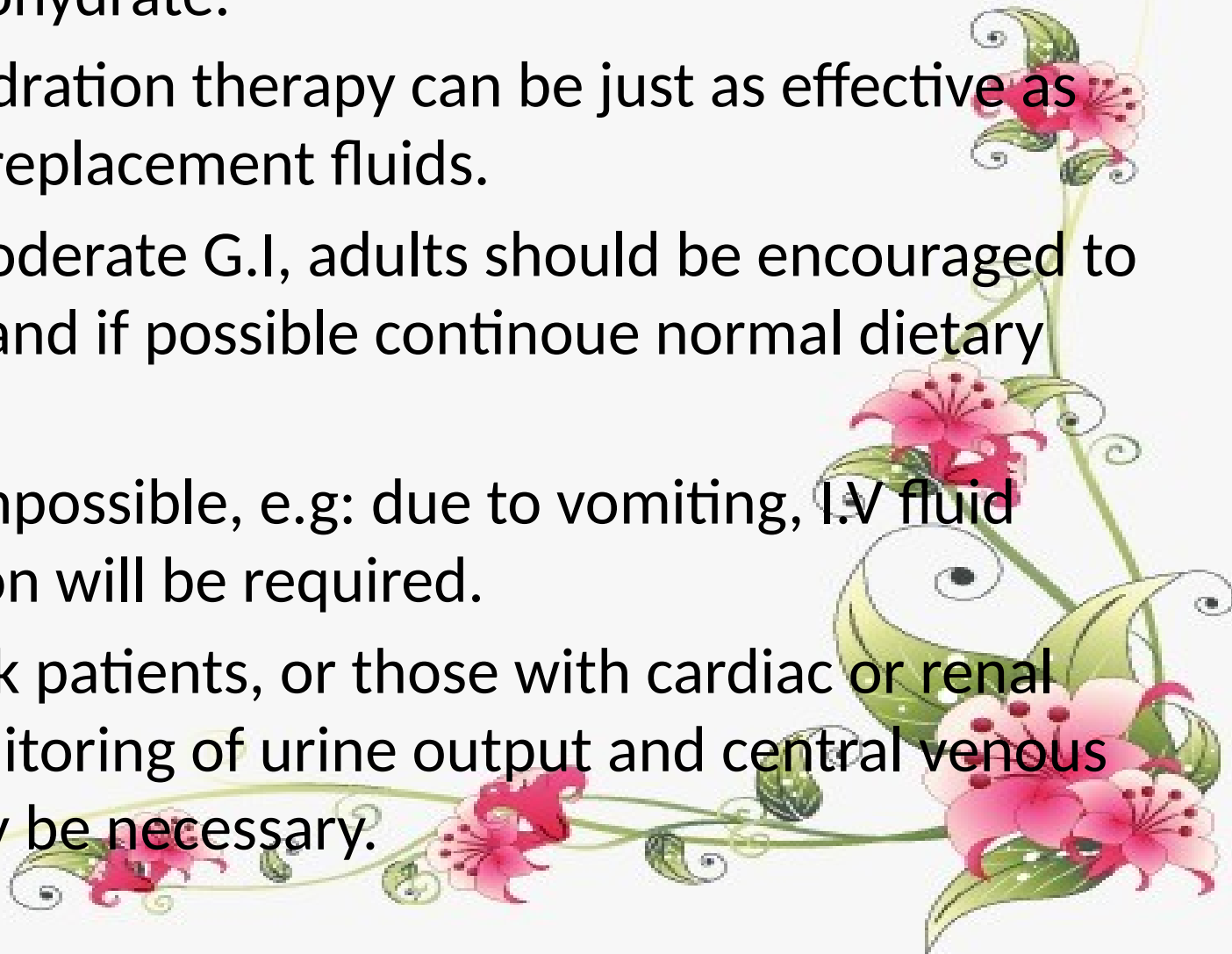
Absorption of electrolytes from gut is an active process even in infected mucosa but requiring energy such as carbohydrate.

So oral hydration therapy can be just as effective as intravenous replacement fluids.

In mild-moderate G.I., adults should be encouraged to drink fluids, and if possible continue normal dietary food intake.

If this is impossible, e.g: due to vomiting, I.V fluid administration will be required.

In very sick patients, or those with cardiac or renal disease, monitoring of urine output and central venous pressure may be necessary.



- Replacement of established deficit:  
After 48 hours of moderate diarrhea (6-10 stools per 24 hours) the average adult will have 1-2L depleted from diarrhea alone.
- Replacement of ongoing losses: the average adults diarrhoeal stool accounts for a loss of 200 ml of isotonic fluid.
- Replacement of normal daily requirement: the average adult has a daily requirement of 1-1.5L of fluid in addition to the calculations above. This will be increased in fever or a hot environment.

#### 4. Antimicrobial agents:

Should not be used routinely, except if there is systemic involvement and a host with immune compromise or significant comorbidity.

Shiga-toxin producing E.coli (EHEC) which produce haemolytic uraemic syndrome (HUS), may become more worse with the development of complications due to release of toxin induced by the use of antibiotics.

Conversely, antibiotics are indicated in Sh. Dysenteriae infection and in invasive salmonellosis, in particular typhoid fever.

Antibiotics may also be advantageous in cholera epidemic, reducing infectivity and controlling the spread of infection.

## 5. Antidiarrhoeal, antimotility and antisecretory agents:

In general these agents are not recommended in acute infective diarrhea

\* antisecretory → Bismuth, chlorpromazine

**Chronic or replacing diarrhea:** chronic diarrhea can be categorized as disease of the colon or small bowel/ malabsorption. Clinical presentation, exam of the stool, routine blood test and imaging reveal a diagnosis in many cases.

- Causes and presentation:

**A. Colonic:** inflammatory bowel disease, neoplasia, Ischemia, IBS. (blood and mucus in stool with cramping lower abdominal pain).

**B. Malabsorption:** pancreatic (chronic pancreatitis, cancer of pancreas, cystic fibrosis) enteropathy "Coeliac disease, tropical sprue, Lymphoma, Lymphangiectasia" (steatorrhoea, undigested food in the stool, weight loss and nutritional disturbance).



**Small bowel type:** "VIP oma, drug induced such as NSIDs, aminosalicylates, selective serotonin re-uptake inhibitors". Lead to large volume, watery stool, abdominal bloating, cramping mid-abdominal pain.



A red rose with green leaves is positioned on the left side of the image. To its right is a large, white heart-shaped card with a black outline. The card contains the text "Thank you" in a large, black, sans-serif font. The background is a textured, light brown surface.

Thank  
you