

## 14. GASTROINTESTINAL MANIFESTATIONS

Gastrointestinal (GI) and hepatobiliary symptoms are common in HIV/AIDS. They are often the initial AIDS defining illness. The use of aggressive antiretroviral regimens alters the nature of GI complications. The common GI symptoms are:

- intolerance to medications
- thrush
- diarrhoea (often chronic and associated with weight loss and malnutrition)
- odynophagia and dysphagia
- abdominal pain
- jaundice
- anorectal disease

### 14.1 Important general principles

The following general principles should be kept in mind when assessing and managing gastrointestinal problems in persons with HIV infection:

- Clinical signs and symptoms alone are rarely diagnostic.
- Multiple infections are common.
- The main objectives of management are to identify treatable disorders and control symptoms
- The absence of a specific diagnosis after adequate evaluation is not unusual.
- Less invasive diagnostic investigations should precede more invasive procedures.
- Likely diagnoses can be predicted based upon the stage of HIV disease in the patient.

- In the late stages of AIDS, GI manifestations are often part of systemic infection such as CMV infection or atypical mycobacteriosis.
- Common GI neoplasms are lymphomas, Kaposi's sarcoma and anal carcinoma.

## 14.2 Diarrhoea

Diarrhoea is a very common symptom in persons with HIV infection and immunosuppression. A large number of pathogens may cause the problem. Tables 14.1 and 14.2 summarise some of these.

<b>Table 14.1 Causes of diarrhoea in persons with HIV infection</b>			
<b>Agent</b>	<b>Course</b>	<b>Clinical findings</b>	<b>Diagnosis</b>
Salmonella spp	Acute or subacute	Enteric fever, gastroenteritis	Blood and stool culture
Shigella spp	Acute	Dysentery, fever, colitis	Stool culture
<i>Campylobacter jejuni</i>	Acute	Watery stools, dysentery, fever, colitis	Stool culture
<i>Clostridium difficile</i>	Acute or chronic	Watery stools, abdominal pain, fever, colitis	<i>C. difficile</i> toxin
Small bowel overgrowth	Chronic	Watery stools, malabsorption	Small bowel aspirate for quantitative culture, hydrogen breath test
<i>Mycobacterium avium</i>	Chronic	Watery diarrhoea, fever, abdominal pain, enteritis, hepatomegaly	Blood culture, small bowel biopsy, AFB stain
Cryptosporidia	Acute or chronic	Profuse watery diarrhoea up to 20L/day	Oocytes in stool found on AFB stain
Cyclospora	Chronic	Watery diarrhoea	Stool AFB stain for oocysts
Microsporidia	Chronic	Watery stools, fever, enteritis	Trichrome stain of stool, small bowel biopsy
Isospora	Chronic	Watery stools	Stool AFB stain for cysts
<i>Giardia lamblia</i>	Chronic	Watery stools, malabsorption, bloating, flatulence	Stool microscopy
<i>Entamoeba histolytica</i>	Subacute or chronic	Dysentery, fever, asymptomatic carriage	Stool microscopy, fresh stool, serologic tests
CMV	Subacute or	Watery stool, bloody, fever,	Intestinal biopsy

	chronic	abdominal pain, enteritis, colitis, colonic perforation	
Enteric viruses	Subacute or chronic	Watery stools, enteritis	Major agents cannot be detected by clinical laboratories
Idiopathic	Chronic	Watery stools, malabsorption	Intestinal biopsy, villous atrophy, decreased villus:crypt ratio

<b>14.2 Causes of acute and chronic diarrhoea</b>	
<b>Causes of acute diarrhoea (usually less than 2 weeks duration)</b>	<b>Comments</b>
Shigella spp	Dysentery, abdominal cramps
Salmonella spp	Fever
Campylobacter	Fever, blood in stool
<i>Clostridium difficile</i>	Common after antibiotic use, especially ampicillin
Enteric viruses	Watery stools, may become chronic
Staphylococcal	Food poisoning
<b>Causes of chronic diarrhoea (usually more than 2 weeks duration)</b>	<b>Comments</b>
Cryptosporidiosis	Profuse watery diarrhoea, marked dehydration
Isosporiasis	Watery stools
Microsporidiosis	Watery stools, fever
Giardiasis	Bloating, flatulence
Cyclosporiasis	Watery stools
<i>Entamoeba histolytica</i>	Dysentery
Cytomegalovirus	Watery bloody stools, fever, abdominal pain, intestinal perforation
<i>Mycobacterium avium</i> complex	Watery stools, fever, abdominal pain, hepatomegaly

**NOTE:**

Critical factors are the degree of immunosuppression, the CD4 cell count, history of recent antibiotic use, and establishing whether the diarrhoea is acute or chronic. Certain symptoms and signs may suggest a diagnosis:

- Upper or mid-abdominal cramps, bloating, and nausea suggest gastric and/or small bowel involvement, consider MAC, Cryptosporidiosis or Isosporiasis.

- Severe watery diarrhoea, with dehydration and electrolyte disturbances and weight loss suggests intestinal cryptosporidiosis.
- Haematochezia and lower abdominal cramps imply colonic infection, consider CMV, *Clostridium difficile*, *Shigella*, *E. histolytica*, or *Campylobacter* infection.
- Tenesmus most frequently occurs in bacterial colitis.
- Weight loss accompanying chronic diarrhoea suggests an opportunistic infection, e.g. giardiasis

#### 14.2.1 Diagnosis

- Initial investigation should be stool examinations, i.e., microscopy, culture and sensitivity, *C. difficile* toxin assay, and 3 stools for ova and parasites. An acid-fast smear should also be requested to look for *Cryptosporidium*, *Isospora*, and *Cyclospora*. *Microsporidium* can be diagnosed by trichrome staining of a stool specimen.
- If stool results are negative, sigmoidoscopy with biopsy is often the first procedure.
- Salmonella is the most frequent GIT bacterial pathogen in AIDS.
- *C. difficile* associated diarrhoea is common in patients receiving antibiotics, especially ampicillin, clindamycin, or cephalosporins.
- If stool evaluations and sigmoidoscopy are non-diagnostic, consider up to seven days trial of empiric antibiotics with a quinolone and metronidazole to treat possible small bowel overgrowth, culture-negative *Campylobacter*, *Salmonella*, *Giardia*, or *C. difficile* infection.
- Indications for more vigorous investigation rather than empiric therapy are the presence of severe symptoms and associated fever or abdominal pain.
- Endoscopy of upper and/or lower GIT may be necessary if the above are not helpful, but the investigations are often not available.

- Radiographic contrast studies generally are not useful in evaluating diarrhoea in these patients since most disorders require mucosal biopsy.
- CT scan may show colitis caused by CMV or *C. difficile*, abdominal adenopathy, e.g., caused by lymphoma, MAC, TB, histoplasmosis, hepatic disease, or biliary tract disease.

### 14.2.2 Management

#### Non-drug related treatment

Most critical therapy is rehydration, preferably using oral solutions of water, salt, and sugar. Many proprietary fluids used for sweat replacement, diluted fruit juices and flavored soft drinks are suitable only if the individual is not severely ill. Intravenous fluids, e.g., Ringer's lactate or normal saline, are necessary for severe dehydration or if the patient is vomiting or unable to take orally.

Adequate nutrition is important although patients may be anorectic. Boiled starches and cereals (e.g., porridge, potatoes, noodles, rice, wheat, and oat) with salt are advised. Biscuits, bananas, yogurt, soup, and boiled vegetables also suitable. See Table 3.1 in nutritional chapter for appropriate dietary advice.

#### Drug therapy

If diarrhoea is acute, especially with fever or blood in stool or if stool examination shows blood or leucocytes:

#### FIRST LINE

Norfloxacin 400 mg PO BID 5 days

#### ALTERNATIVE

Chloramphenicol 500mg PO QDS 5 days

- If stool results are negative and no response to initial treatment consider sigmoidoscopy with or without biopsy.

- If stool evaluations and sigmoidoscopy are non-diagnostic, consider up to seven days trial of empiric metronidazole to treat possible small bowel overgrowth, culture-negative *Campylobacter*, *Salmonella*, *Giardia*, or *C. difficile* infection.

#### If diarrhoea is chronic

Consider up to seven days trial of empiric metronidazole to treat possible small bowel overgrowth, culture-negative *Campylobacter*, *Giardia*, or *C. difficile* infection.

Use antimotility agents e.g. loperamide or diphenoxylate for the symptomatic treatment of diarrhoea (in the absence of fever or bloody stool).

- Loperamide is given in a dose of 4 mg initially, then 2 mg after each unformed stool, not to exceed 16 mg/day.
- Diphenoxylate is given in a dose of 4 mg PO QID. Diphenoxylate has central opiate effects and may cause cholinergic side effects.

**Oral fluids should be taken aggressively with antimotility agents.**

### **14.3 Odynophagia and dysphagia**

The symptoms of odynophagia (pain on swallowing) and dysphagia (difficulty on swallowing) occur in more than a third of all persons with HIV infection. These symptoms are more common in persons in the advanced stages of AIDS and are uncommon while CD4 lymphocyte counts are more than 200/mm<sup>3</sup>.

#### **14.3.1 Diagnosis**

The presence of oral thrush can be predictive of candidial oesophagitis. The commonest cause of dysphagia in HIV disease is candidiasis. In persons with odynophagia the patient is more likely to have ulcerative oesophagitis. Endoscopy with biopsy (for histology) is the only way to establish a specific aetiology for dysphagia and/or odynophagia. Barium swallow radiography is not recommended because of low sensitivity and specificity.

### 14.3.2 Management

#### Non-drug related treatment

- A soft diet may reduce symptoms of dysphagia
- Avoidance of drinks at the extremes of temperature for odynophagia

#### Drug therapy(See Fungal Opportunistic infection chapter)

- Empiric treatment with fluconazole 200mg daily for 14 days or ketoconazole 200mg PO BID for 14 days. Improvement in symptoms may be expected in 7 days.

### 14.4 Abdominal pain

The cause of abdominal pain in the majority of patients is directly related to HIV and its complications, but the more common causes of abdominal pain in the general population also need to be considered.

#### 14.4.1 Diagnosis

- The history is important in localizing the origin of the abdominal pain. Perforation of the distal small bowel or colon is most commonly caused by CMV and obstruction by tumors.
- Infectious enteritis can produce dull, intermittent abdominal pain or acute pain in the absence of obstruction or perforation; diarrhoea usually accompanies the pain.
- Pancreatitis is common in AIDS patients. It often occurs as a complication of anti-retroviral drugs ( e.g. didanosine), and less frequently it is part of primary HIV infection (CMV and, less often, mycobacteria, Cryptococcus, and herpes simplex). The presentation is similar to that in non-HIV patients.
- The diagnostic workup of abdominal pain is the same as for a patient without AIDS:

abdominal ultrasound scanning is useful early in the assessment of abdominal pain, and may detect disease not suspected clinically, e.g., gallbladder or colonic wall thickening, focal hepatic lesions, biliary ductal dilatation, pancreatic infiltration, abdominal adenopathy, peritoneal thickening.

- Paracentesis is safe in ascites. Causes include spontaneous bacterial peritonitis, tuberculous or fungal peritonitis, and lymphoma. High-protein ascites of uncertain aetiology is recognised.

#### 14.5 Evaluation of anorectal symptoms

Anorectal diseases are common in heterosexuals with advanced AIDS and in the subset of AIDS patients who are homosexual or bisexual. The common lesions are perirectal abscesses, anal fistulae, nonspecific ulcerations and infectious proctitis. The commonest identifiable cause of ulcerations in late stage disease is HSV infection. Other causes include, lymphoma, CMV, tuberculosis, or histoplasmosis.

**NOT all HIV patients with ano-rectal pain have haemorrhoids. Ensure you LOOK and examine properly.**

##### 14.5.1 Diagnosis

- Weight loss, fever, fatigue, and night sweats suggest a neoplasm or anorectal opportunistic infection. Herpes simplex infection involving the distal rectum can present with tenesmus, occasional bleeding, and, less commonly, with associated bladder or bowel dysfunction.
- Visual inspection of the anus for fissures and masses should precede digital examination.
- Presence of severe pain on rectal examination strongly suggests ulcerative disease, haemorrhoids or a neoplasm
- All patients with anorectal symptoms should have proctoscopy and sigmoidoscopy (rigid or flexible) with mucosal biopsy

- Patients with tenesmus, rectal discharge and anorectal pain should in addition have evaluation of anorectal pus for PMNs, gram stain and culture for gonococci, chlamydia tests, Tzanck prep, and culture for HSV, and should have tests to rule out syphilis

#### **14.5.2 Management**

Standard management according to the diagnosis.