Oh dear…it’s amoebic colitis

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Per rectal bleeding is one of the most common presenting features reported in the surgical outpatient clinic as well as emergency department. Although underlying causes for per rectal bleeding are mainly surgical in nature, infective causes should not be forgotten. Infection by Entamoeba histolytica occurs worldwide but is more common in areas of poor sanitation and nutrition especially in the tropics.1 The infection may remain asymptomatic, however in invasive cases it may cause morbidity and mortality.2 3 We report two cases of adults presenting with per rectal bleeding where the diagnosis of amoebic colitis was made only upon histopathological examination.

Patient 1
A 48-year-old Indian lady presented with two months history of per rectal bleeding. She was referred to the Department of Surgery for further management. On examination she was anaemic and lethargic. Per rectal examination revealed fresh blood. Colonoscopy revealed the rectum, ascending colon and caecum to be inflamed. Biopsies were taken from these sites revealed dense inflammation of the oedematous lamina propria by lymphoplasmacytic cells and eosinophils. These were accompanied by amoebic trophozoites infiltrating within necrotic and haemorrhagic tissues. She was treated with intravenous metronidazole 500 mg tds for 3 days followed with tablet metronidazole 400 mg tds for 14 days. She recovered uneventful.

Patient 2
A 30-year-old lady presented to the emergency department complaining of per rectal bleeding. She was in shock and had to be resuscitated. Emergency laparotomy was conducted to find the source of bleeding. During laparotomy, ascites was noted (400 ml) and the caecum found to be thickened. Hemicolectomy was performed based on the clinical impression of caecal tumour. The rest of the intestine, liver and stomach were normal. Macroscopically, the caecum was thickened and covered by fibrinopurulent exudate. Cut sections showed a thickened wall that was hard in consistency. The lumen was 30 mm in diameter and filled with necrotic material. The mucosal surface was ulcerated and irregular. There was no obvious perforation or tumour seen. Microscopically, sections from the caecum showed flask-shaped ulcerated areas covered by fibrinopurulent exudates. There were colonies of amoebic trophozoites infiltrating into the intestinal wall intermingled with dense inflammatory cells (neutrophils, lymphocytes and plasma cells) with focal disruption of muscle fibres (Figure 1). No malignant cells were detected. The adjacent areas showed granulation tissues. All 14 mesenteric lymph nodes identified showed reactive hyperplasia. Post-operatively, the patient was treated with intravenous ceftriaxone 1gram bd and intravenous metronidazole 500 mg tds for five days. As the histopathology report showed evidence of severe amoebic colitis, she was further treated with tablet metronidazole 400 mg tds for 14 days. She also recovered uneventfully.

Per rectal bleeding, anaemia and lethargy were the main presentations in both patients. The probability of infectious disease as an underlying cause apparently was not considered as there was no investigation documented in the initial diagnosis. From the point of view of a comprehensive approach to patient management, to directly conclude that all patients coming to a surgical department require surgical investigations and intervention may need further consideration and discussion as
it may lead to certain unnecessary procedures which indirectly affect costs incurred by the service provider and patients. In both these cases, the patients actually had a relatively common infectious disease encountered in tropical countries i.e. amoebic colitis.

*Entamoeba histolytica* is the causative agent for amoebiasis or amoebic colitis. Amoebiasis has been reported as a second leading cause of death from parasitic disease after malaria. The majority of invasive cases are seen in developing countries like in Asia and Africa. In Malaysia, it is considered as endemic disease with prevalence rate between 1.0 to 40.7%. However the actual prevalence rate may be higher as many cases may not be reported.

The amoebic protozoa secretes proteinases that dissolve host tissues, killing host cells and engulfing red blood cells. It would then invade the intestinal mucosa causing colitis. Its capability to induce pathological damage to the intestinal wall explains the main clinical features characterized in these patients.

Clinical presentations of amoebiasis range from asymptomatic to severe manifestations that may lead to fatality. It is estimated that about 10-20% of infected individuals become symptomatic, presenting with bloody diarrhoea, abdominal pain, fever, weight loss and anorexia. The onset is usually gradual and most patients experience several weeks of the symptoms.

The diagnosis of amoebic colitis depends on the demonstration of *Entamoeba histolytica*. A simple noninvasive method is by examining at least three properly prepared stool samples, which for years has been the main investigative method. Invasive techniques include colonoscopy and colonic biopsy. A simple hematoxylin and eosin stain will demonstrate the amoebic trophozoites, which are confirmed by PAS or Giemsa stains. A typical pathological finding in the intestine is a flask-shaped ulcer with amoebic trophozoites intermingled within purulent exudates and necrotic tissues.

However, the crucial decision may lie with the level of skill of laboratory personnel, as sometimes differentiation of *Entamoeba histolytica* trophozoites from leucocytes and other intestinal protozoa can be difficult. For example, the morphology of *Entamoeba histolytica* and *Entamoeba dispar* (a commensal) are similar, and can only be differentiated by their DNA properties. Alternatively, ELISA assays can be used to support the diagnosis. The method is less user-dependent and more sensitive than microscopy.

It is therefore recommended that for patients presenting with per rectal bleeding, a detail history on the bowel habits, stool content, duration of symptoms, traveling history as well as the associated features should be obtained. Amoebic colitis should be considered in the differential diagnosis.
and procedures like faecal examination or ELISA assay would help to clinch the diagnosis. In that way, unnecessary invasive procedures and colectomy may be avoided.

In conclusion, *Entamoeba histolytica* infection is an important infectious disease in tropical countries. Currently no vaccine is available for the disease. Hence health education and awareness should be created among the local residents, travelers and medical practitioners to ensure proper diagnosis and treatment.

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REFERENCES