Crohn's Disease Presenting with Acute Intestinal Obstruction in an Elderly

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ABSTRACT

Crohn's disease is a component of inflammatory bowel disease (IBD); the other component being ulcerative colitis. It is a chronic inflammatory disease involving different sites along the gastrointestinal tract and occasionally extra-intestinal sites.
Inflammatory bowel disease may be difficult to diagnose especially in the elderly as it may mimic other forms of colitis namely infective, ischaemic, diverticulosis and colitis associated with non-steroidal anti-inflammatory drugs. Patients with Crohn's disease may present with complications such as acute intestinal obstruction, intestinal perforation, abscess and fistula formation that will require surgical intervention.
We present a 69- year- old man who presented with acute intestinal obstruction of the small bowel caused by Crohn's disease that was treated by surgical resection and steroid therapy with good outcome.

Keywords: Crohn's disease, acute intestinal obstruction, elderly

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INTRODUCTION

Crohn's disease is a chronic inflammatory disorder that usually involves different sites along the gastrointestinal tract and occasionally extra-intestinal sites (Hugh, 2014). Molodecky et al. (2012) reported a rise in the incidence and prevalence of Crohn's disease over time in different parts of the world; pointing to it, as a global disease. It appears to be a life-long disorder becoming clinically apparent from early childhood to late adulthood (Freeman, 2007).

In the aetiology and pathogenesis of Crohn's disease, genetic, epigenetic and environmental factors have been implicated (Venthan et al., 2013). Current evidence suggests an aberrant immunological response to intestinal microbiota in genetically susceptible individuals (Xavier & Poldosky, 2007). The disease is characterized by chronic granulomatous inflammatory reactions, which consists of focal collections of macrophages, epitheliod cells and multinucleated giant cells. Genetic risk profiling may be able to predict the eventual course of the disease (Henckaerts et al., 2009).

Patients with Crohn's disease are usually treated with medications. However, in the presence of complications such as acute intestinal obstruction,

intestinal perforation, abscess and fistula formation, surgery will suffice.

We present a 69 -year – old man who presented with acute intestinal obstruction of the small bowel caused by Crohn's disease that was treated by surgical resection and steroid therapy with good outcome.

Case Report

A 69 – year – old man presented with a year history of recurrent central abdominal pain, colicky in nature which progressively became worse. There was associated constipation, central abdominal swelling, loss of appetite, frequent passage of dark coloured-stool and weight loss. There was negative history of nausea, vomiting, tenesmus and mucus in the stool. He was a known hypertensive diagnosed two years prior to presentation with poor drug compliance. He takes alcohol occasionally but does not smoke. A review of other systems was normal.

Physical examination revealed an elderly man, acutely ill-looking, pale, afebrile, anicteric, dehydrated with neither pedal edema nor peripheral lymph node enlargement. There was central abdominal distension with peristalsis moving from left to the right side of the abdomen and abdominal tenderness. The bowel sound was hyperactive and gloved finger was stained with dark stool on digital rectal examination. His pulse rate was 68 beats/min and blood pressure 180/110mmHg, SpO_2 was 98%, respiratory rate was 20 cycle/min and temperature was 37°C. The clinical diagnosis was acute small bowel obstruction from a small bowel tumour. Differentials included inflammatory bowel disease (Crohn's and Ulcerative colitis), internal obstructed hernia, small bowel lymphoma, volvulus and gallstone ileus.

Full blood count showed low haemoglobin of 12.3g/d (normal range: 13.9-16.3g/dl), total white blood cell count of 14.53 x 1000/mm^3 (normal range: 3.0 - 10.5 x 1000mm^3) and platelet count of 280 x 1000/mm^3 (normal range: 150 – 400 x 1000mm^3). The electrolytes, urea and creatinine were normal. A plain abdominal X-ray revealed few dilated bowel loops with air fluid level (Figure 1a and 1b) while his chest X-ray and abdominal ultrasound was normal.

The patient had emergency laparotomy and findings included a small bowel tumour located 40cm from ileo-caecal junction causing obstruction with dilatation of bowel proximal to obstruction site and collapse of distal segment (Figure 2). There were three lymph nodes each measuring approximately 3cm in the mesentery. Other intra-abdominal organs were normal. The tumour was resected en bloc with the lymph nodes and end-end anastomosis carried out with Vicryl 2/0.

Figure 1a: Plain abdominal radiograph showing dilated loops (Supine view)

Figure 1b: Plain abdominal radiograph showing bowel multiple air-fluid level (Erect view)

Figure 2: Intra-operative picture showing the tumour (indicated by tip of a clamp) causing obstruction with dilatation of the bowel proximal to the tumour and collapse of distal segment.

Histology of the resected tumour showed transmural involvement by an inflammatory process of which the inflammatory changes are more severe in the submucosa and the subserosa. There was lymphoid hyperplasia and also plasma cells and eosinophils. Extensive fissure-like ulcers were seen and the ulcers contained fibrinopurulent exudates. There was hyperplasia of the muscularis mucosa and fibrosis, transmurally. A few serosa based abscesses were present. No granuloma could be identified. There existed an increase in the number of smooth muscle fibres in the submucosa (obliterative muscularization). The mucosa away from the ulcers showed areas with a normal appearance and in other areas, chronic inflammation and also features that suggested ischaemic process. No dysplasia or malignancy was seen. These features were in keeping with Crohn's disease.

Post-operative period was uneventful. The patient was placed on steroid (Prednisolone) 40mg daily and has been followed up for three years without any problem. At present, the prednisolone has been tailed down to 20mg daily.

DISCUSSION

Crohn's disease can occur from early childhood to late adulthood. The actual age of onset of Crohn's disease, or more precisely, age of detection or diagnosis is usually during the late teens and early twenties, and over the past two or three decades, greater than 80% are diagnosed before the age of 40years (Freeman, 2011). However, this case reported occurred in an elderly patient.

The symptoms of inflammatory bowel disease (Crohn's disease and Ulcerative colitis) include abdominal pain, weight loss, anaemia and diarrhea.

The anaemia (low haemoglobin) in the patient is due to bleeding from the tumour while the elevated white blood cell occurred as a result of acute inflammation precipitated by the small bowel obstruction. The clinical manifestations in both Crohn's disease and Ulcerative colitis are similar in the younger age group and those greater than 60 years (Joaquin, 2011). Crohn's disease presents with granulomatous inflammation in patients greater than 60 years while stricturing and penetrating pattern is seen in those with age range of 18-61 years (Joaquin, 2011). The pattern in this case deviated from the granulomatous pattern of elderly and aligned with the stricture and penetrating pattern of younger and middle aged adults.

The index patient presented with acute intestinal obstruction with the obstruction site located in the ileum. Majority of Crohn's disease involve the ileum and colon based on the most modern imaging methods (Freeman, 2011). Severe Crohn's disease may lead to acute intestinal obstruction with the thickening and fibrosis of the affected intestinal segment (Freeman, 2008). Other complications that may occur include intestinal perforation, abscess and fistula formation. In this case, patient reported with features of intestinal obstruction devoid of complications likely due to the duration of the condition before presentation.

The treatment of the inflammatory mass caused by the disease, causing intestinal obstruction is surgical resection of the affected intestinal segment with end-end anastomosis which was carried out in the indexed case. Additional steroid therapy given to the patient was aimed at reducing the risk of recurrence. The severity of recurrence is usually higher in elderly patients with longer duration of symptoms which influenced the need for steroid therapy (Satsangi et al., 2006). In Crohn's disease, there is an imbalance between pro-inflammatory and anti-inflammatory mediators in the bowel mucosal immune system (Sartor, 1995). Steroids have inhibitory effects on several pro-inflammatory cytokines and arachidonic acid metabolism. They achieve their anti-inflammatory effects by binding to a high-affinity intracellular cytoplasmic receptor present in all human cells (Brattsand & Linden, 1996). By so doing, they are highly effective in inducing clinical remission in patients with active Crohn's disease unlike if they are not administered.

There are various clinical conditions that can mimic inflammatory bowel disease in the elderly. Neoplasm such as small bowel lymphoma may have similar features to those of inflammatory bowel disease or may be a complication of the disease (Brandt, 2005). Other conditions include diverticulosis, colitis associated with diverticulosis, ischaemic colitis, infection and non-steroidal anti-inflammatory drugs induced colitis (Joaquin, 2011).

It is difficult to make a diagnosis of Crohn's disease especially in the elderly. At best, a diagnosis of small bowel obstruction from a tumour can be made. Clinical features of acute small bowel obstruction, few dilated bowel loops with air fluid level and normal abdominal ultrasound findings are inconclusive. Laboratory features of low haemoglobin and elevated white blood cell count are non-specific in inflammatory conditions. The diagnosis can only be confirmed after the tumour has been resected and evaluated histologically. This was carried out in the reported case.

CONCLUSION

Crohn's disease causing acute intestinal obstruction in an elderly is uncommon as some clinical conditions such as malignant tumours are likely to take pre-eminence in diagnosis. Surgical resection of the affected intestinal segment coupled with steroid therapy was effective in its treatment with good outcome.

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Conflict of interest

The authors declare that they have no conflicts of interest.

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