Scholars Journal of Medical Case Reports **ISSN 2347-6559 (Online)**
Sch J Med Case Rep 2016; 4(6):372-373 **ISSN 2347-9507 (Print)**

(An International Publisher for Academic and Scientific Resources) DOI: 10.36347/sjmcr.2016.v04i06.002

Pneumatosis Intestinalis as an initial presentation of acute myeloid Leukemia

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Abstract: Pneumatosis Intestinalis (PI) is a rare condition characterized by the presence of gas within intestinal wall. A rare case of pneumatosis Intestinalis in patient with acute myeloid leukaemia is described here.
Keywords: Pneumatosis Intestinalis, leukaemia.

INTRODUCTION

Pneumatosis Intestinalis (PI) is a rare condition characterized by the presence of gas within mucosal and submucosal layers of the intestinal wall [1]. The diagnosis is made by radiographic imaging showing air-filled bullae along the intestinal border and occasionally a pneumoperitoneum. We describe a case of a 19 year-old young man with acute myeloid leukemia who developed progressive abdominal distension and bloody diarrhea.

CASE PRESENTATION

A 19 year old young man was referred to our cancer centre as a suspected case acute leukaemia. He was suffering from one week history of fever, loose stools and hyper leucocytosis. Subsequently patient had progressive abdominal distension along with bloody loose stools. Clinical examination revealed pallor and dyspnoea. Abdomen was over distended with hyper resonant note on percussion. Lab finding showed Haemoglobin 9.2 g/dl, Total count 460000/mm^3 and platelet count of 60000/mm^3. Bone marrow smear and Flowcytometry was consistent with acute myeloid leukaemia M1 with a blast of 93%. Abdominal radiograph showed dilated bowel loops. (Figure 1A ;arrow). Computed Tomography of abdomen revealed dilated small and large bowel loops with few bowel loops shows air within bowel wall. This radiological finding was suggestive of intestinal obstruction with pneumatosis Intestinalis (Figure 1B; arrow). Emergency surgical oncology consultation was made. They advised no emergent surgical intervention at the time, in view of thrombocytopenia. Patient was started on intravenous imipenem- cilastatin and metronidazole along with other supportive care. Unfortunately after three days, patient succumbed to severe sepsis and death.

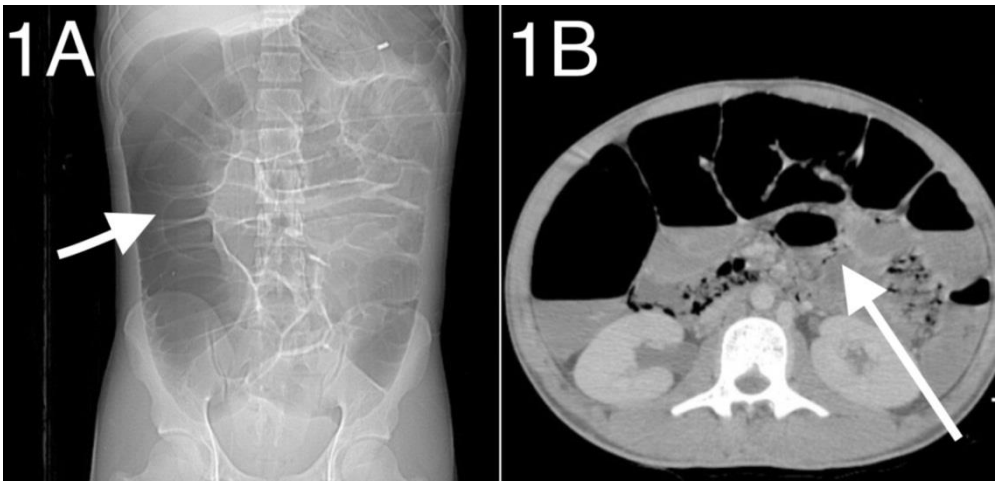

Fig (1A;arrow): Abdominal radiograph showing dilated bowel loops
Fig (1B;arrow): Computed Tomography of abdomen of patient with pneumatosis intestinalis showing dilated small and large bowel loops with few bowel loops shows air within bowel wall

DISCUSSION

Pneumatosis cystoides Intestinalis (PCI) is a relatively rare condition characterized by multiple intramural gases existing in any part of the gastrointestinal tract [2]. PCI was first reported by Du Vernoy in1730 [3].

Two major theories that exist regarding the etiology of this disease are bacterial and mechanical. According to bacterial theory, gas-producing bacteria such as Clostridium or Escherichia Coli invade the bowel and produce gas inside bowel wall. Whereas mechanical theory, suggests that an increase in bowel luminal pressure may allow gas to penetrate the submucosal space and this can happen secondary to bowel obstruction, trauma, surgery, and colonoscopy. Treatment modalities range from emergency surgery and resection, to spontaneous resolution with conservative treatment. Antibiotic treatment has been reported to have led to resolution of PCI, supporting the theory of bacterial involvement. Surgical exploration and colonic resection are indicated when patient has worsening peritoneal signs, severe lactic acidosis, signs of intestinal obstruction or rectal bleeding [4].

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