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Case Report

Ileo-colic Intussusception Associated with Pathological Lead Point Non-Hodgkin's Lymphoma that Involved the Caecum: Report of a Case

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ABSTRACT

Adult intussusception is a sparse condition. The causes of adult intussusception are disparate from those of children. In adults, the probability of pathological lead points and surgical treatment is immensely recommended. We draw a case report of non-Hodgkin's lymphoma that caused ileo-colic intussusception in an elderly female. The patient was admitted to our hospital due to recurrent and unresolved abdominal pain for 5 months, and a CT scan revealed consistent with ileo-colic intussusception. The patient had to undergo a limited right hemicolectomy and was diagnosed with non-Hodgkin's lymphoma that involved the caecum. Surgeons should consider intestinal neoplasms as a potential lead point of intussusception in adults and should need urgent, adequate surgical intervention.

Keywords: *Intussusception, Non-Hodgkin's lymphoma, Hemicolectomy*.

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INTRODUCTION

Intussusception is mostly a childhood disease. The prevalence of intussusception is 1.5 to 4 cases per 1,000 live births, and it often occurs around 1 year of age[1]. Adult intussusception is an infrequent clinical entity that accounts for only about 5% to 10%[2]. An obvious lead point is found in 70% to 90% of cases in adult intussusceptions, and approximately 40% of them are formed by primary or secondary malignant tumors[3]. Adult patients often experience non-specific abdominal pain as their primary complaint. It has been presented that 63% of adult intussusceptions are related to tumors[4]. Because of the high risk of malignancy, surgical intervention is advocated in cases of adult intussusception. We delineate a case of Non-Hodgkin's lymphoma that caused intussusception in the ileo-cecal region.

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CASE REPORT

An 82-year-old female was admitted to the surgery department of Jalalabad Ragib Rabeya Medical College Hospital and reported a 5-month history of recurrent right lower abdominal pain with alteration of bowel habits in the form of constipation and diarrhoea. On physical examination, the patient was anaemic and the abdomen was tender in the right iliac fossa. Laboratory studies show low haemoglobin levels (7.3 g/dL), HCT/PCV (22.3%), and mild hypokalaemia (3.19 mmol/L). The level of carcinoembryonic antigen was within normal limits. An ultrasonography revealed thickened wall bowel loops in the right lumbar region with surrounding echogenicity, maximum thickness is about 2.5 cm. A few lymph nodes are also noted. An abdominopelvic computed tomography (CT) scan

showed the invagination of the terminal segment of the small gut within the proximal colon (Intussusception). Involved parts of the gut measuring about 10-11 cm in length with multiple enlarged mesenteric lymph nodes were also detected (Figure-1). As per the CT images, the diagnosis was compatible with ileocolic intussusception with no demonstrable mass-like lesion in this CT scan. The patient proceeded to an exploratory laparotomy, taking care not to reduce the intussusception, and a limited right hemicolectomy with primary anastomosis. Intraoperative findings revealed an ileocaecal intussusception, and amarked hard-indurated lesion on the caecal region with mesenteric lymphadenopathy. The lumen was inspected following resection and presents a polypoid growth in the caecal region, which was 8 cm in maximum diameter. The postoperative course was uneventful. The histological diagnosis indicated a diffuse non-Hodgkin's lymphoma (Figure-2). Immunohistochemical staining showed diffuse proliferation of atypical lymphoreticular cells. Lymph nodes presented reactive hyperplasia. She was referred to the haemato-oncology department for further management.

DISCUSSION

Intussusception occurs when one portion of the gut invaginates into an immediately adjacent segment; almost invariably, it is the proximal into the distal[5]. The condition is encountered most commonly in children, it is an infrequent condition in adults[1,2]. First described in 1674 by Barbette of Amsterdam and documented in a detailed report in 1789 by John Hunter[4]. Adult intussusception represents 5% of all cases of intussusception and accounts for only 1%-5% of intestinal obstructions in adults[4]. In 20% to 55% of cases, the etiologic agent is a primary or secondary malignancy, and 15% to 25% of cases are due to non-neoplastic conditions, including postoperative adhesions, Meckel's diverticulum, infectious lymphoid hyperplasia, trauma, coeliac disease, cytomegalovirus colitis, lymphoid hyperplasia secondary to lupus, Henoch Schönlein purpura, non-Hodgkin lymphoma, and Wiskott-Aldrich syndrome[3,6,7,8]. In a review of 1,214 reported cases of intussusception in adults, Felix et al. estimated that 55% (668/1,214) involved the small intestine, whereas 45% (546/1,214) involved the colon. Of the colon intussusceptions, 48% resulted from malignant tumours and 21% from benign lesions[1]. Begos et al. reported that intussusception of the small intestine in adults is due to benign (63%), idiopathic (23%), and malignant (14%) lesions[1]. It is well known that the gastrointestinal tract is the most common site for extranodal non-Hodgkin lymphoma, accounting for about 20% to 50% of these lymphomas[2]. However, large bowel involvement is rare, and occurs in only 10% of gastrointestinal presentations of malignant lymphoma. The caecum is the lesion site in 85% of cases of large bowel malignant lymphoma[9,10]. Akbulut reported that the ileocolic type was the most common (66.6%, 24/36), followed by the enteric type (27.7%, 10/36) among 36 cases of intussusceptions due to lymphoma that were reported in the literature from 2000 to 2011[2].

The most common age of presentation is around the sixth decade, and this is due to the higher incidence of colonic neoplasms in this population[3]. The clinical presentation of adult intussusception varies, with non-specific symptoms such as nausea, vomiting, gastrointestinal bleeding, constipation, and abdominal distension[4]. The presence of prolonged symptoms and unexplained weight loss can be indicative of gastrointestinal lymphoma. The preoperative workout of adult intussusception is very troublesome because

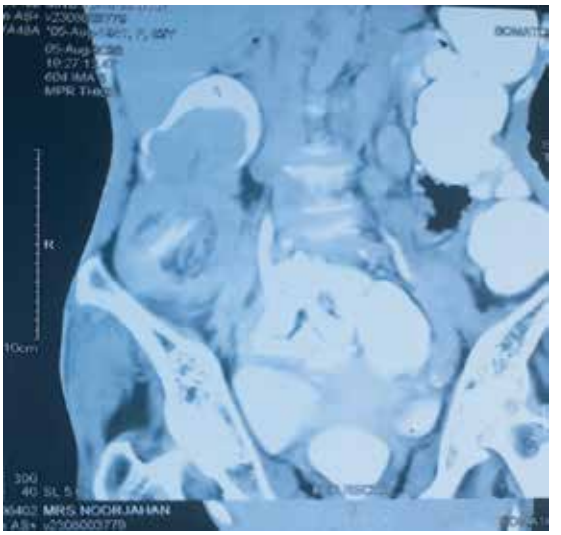

Figure-1: *Contrast enhanced CT scans demonstrated an ileo-colic intussusception.*

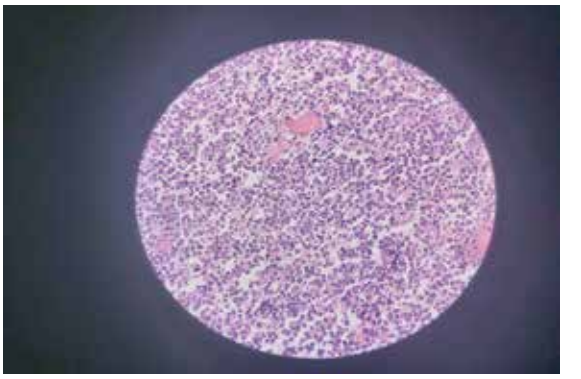

Figure-2: *Microscopic view of the tumour. These cells are diagnostic of Non-Hodgkin's Lymphoma.*

the typical symptoms pain, a palpable mass, and bloody stool are present only in 10% of the patients[11]. Various imaging techniques help to make the diagnosis. The plain abdominal X-ray may show an intestinal obstruction. An upper gastrointestinal contrast study may show a "stacked coin" or "coiled spring" appearance. A barium enema examination may be useful in patients with colonic or ileocolic intussusception in which a cup-shaped filling defect is a characteristic finding. Ultrasound recognition includes the target and doughnut sign on a transverse view and the pseudokidney sign in the longitudinal view[7]. The computerized tomography (CT) findings of intussusception are virtually pathognomonic[3]. In various studies, the intussusception appears as a mass lesion, representing a thickened segment of bowel that corresponds to the intussusceptum and the intussuscepiens, which contains a relatively central area of fat that may show vessels that enhance with the intravenous contrast[3,7]. The magnetic resonance imaging (MRI) findings of adult intussusception are similar to those in CT[3]. Flexible sigmoidoscopy and colonoscopy, intussusception is seen as an intraluminal mass directed centrally and distally[3]. In our case, the diagnosis was made prior to surgery on the basis of clinical picture and imaging studies.

Most authors agree that exploration is mandatory, based on the likelihood of an underlying pathologic lesion[3,7]. When the possibility of malignancy cannot be excluded, tumour spillage during the reduction process could be fatal for the patient. The principle of resection without reduction should be used whenever possible, especially if there is a known neoplasm or if the cause of intussusception is unknown[3]. The theoretic objections to reduction of grossly viable bowel with mucosal necrosis are: 1) intraluminal seeding and venous embolisation of malignant cells in the region of ulcerated mucosa, 2) possible perforation during manipulation, and 3) increased risk of anastomotic complications in the face of edematous and inflamed bowel[11]. In patients with small bowel intussusception, reduction must be initially attempted unless signs of bowel ischemia or inflammation are present or if malignancy is suspected[3,7].

In this case, the patient had repeatedly visited the different physician for recurrent diffuse abdominal pain for 5 months, but the diagnosis was uncertain. Because the discomfort was not severe, it disappeared spontaneously.

In our patient, the final pathologic results revealed that caecal non-Hodgkin's lymphoma caused an ileocolic intussusception.

CONCLUSION

Intussusception in adults is an uncommon condition and illustrates a challenge for the surgeon. Imaging studies are required to make the diagnosis preoperatively. In the time of surgery, when malignancy is doubt to be the lead point of the intussusception, it is best to make a resection of the affected bowel to avoid the dissemination of neoplastic cells.

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