

Case Report

Post appendectomy young male proffer intussusception unveiled diffuse large B-cell lymphoma non-Hodgkin lymphoma

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ABSTRACT

Intussusception is the telescoping of the proximal segment of the intestine within the lumen of the adjacent segment. Adult intussusception is rare and its aetiology differs from paediatrics. Surgery is highly recommended and challenging considering the possibility of carcinoma. Post-operative intussusception is a rare and bizarre complication. We report an 18-year old male who had undergone uncomplicated appendectomy outside the institute with missed histopathological examination (HPE) report, presented with abdominal pain for 1 week, vomiting 4 days, obstipation 1 day. On examination ovoid mass of size (12×7 cm) in right hypochondrium. A plain abdomen radiograph shows dilated bowel loops. Contrast-enhanced computed tomography (CECT) abdomen and pelvis showed telescoping of small bowel into the caecum. Suggestive of post-appendectomy intussusception causing intestinal obstruction, emergency laparotomy revealed telescoping of ileum into caecum, acting as the leading point of intussusception, proceeded with right hemicolectomy and ileo-transverse anastomosis. With blindsiding HPE defining high grade diffuse large B cell lymphoma, immunohistochemistry stains nuclear positivity for cluster of differentiation-20 (CD-20) >80%, and Ki-67 >90%. Surgery plus chemotherapy is warranted being a high-grade tumour. Surgery must be restricted to the primary tumour, with mesenteric lymph node involvement based on oncological principles. Laparoscopic approach is preferred nowadays.

Keywords: Adult, Intussusception, Diffuse large B cell lymphoma, Intestinal obstruction, Post appendectomy, Intestinal lymphoma

INTRODUCTION

Intussusception was 1st reported by Barbet of Amsterdam in 1674.¹⁻³ Intussusception primarily a childhood disease. Adult intussusception is rare to represent 5% of all intussusception and 1-5% of all cases of intestinal obstruction.⁴ Post-operative intussusception (POI) is a rare surgical complication and found 0.01-0.25% of laparotomies and 5-10% of all yearly post-operative intestinal obstruction.⁵ Pathology of intussusception differs in paediatric and adult; ileum is most common site followed by jejunum then duodenum.

Vague and non-specific symptoms and signs make it difficult to diagnose pre-operatively.⁶ Because of the high risk of malignancy, surgical intervention is recommended in cases of adult intussusception.

CASE REPORT

An 18-year old male visited our emergency department with complaints of abdominal pain for 1 week, vomiting 4 days, obstipation 1 day. Right lower abdominal pain, intermittent, cramping in nature, accompanied by reduced appetite, nausea, vomiting containing food particles, no

hematemesis, and obstipation. Has a history of appendectomy 2 months back outside with missed histopathological examination (HPE) report. He was moderately built, haemodynamically stable. On abdominal examination palpable ovoid-shaped mass of size (12×7 cm) in right hypochondrium. Rectal examination was unremarkable.

A plain abdomen radiograph shows dilated bowel loops. Contrast-enhanced computed tomography (CECT) abdomen and pelvis showed telescoping of small bowel into ascending colon and hepatic flexure along with mesenteric vessels (Figure 1 and 2). Long segment smooth-walled thickening of the colon with peri colonic fluid and minimal collection in the right iliac region with short segment proximal ileal dilatation noted. Suggestive of post-appendectomy intussusception as the provisional diagnosis.

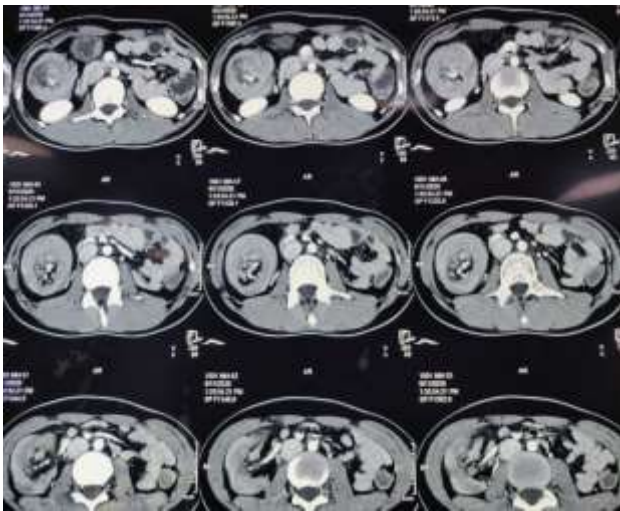


Figure 1: CECT abdomen shows intussusception (target sign).

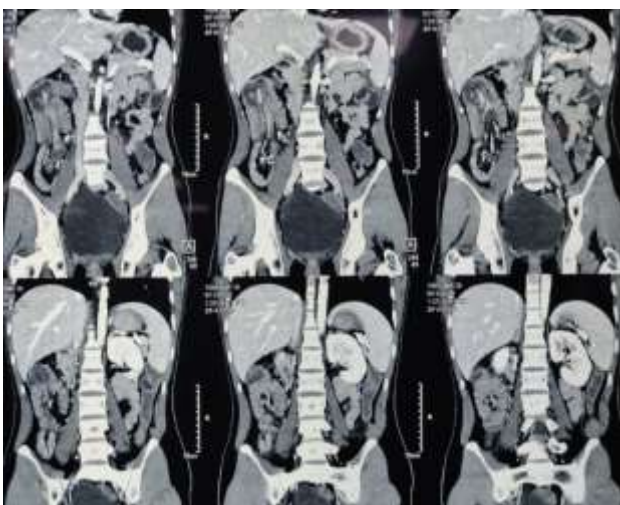


Figure 2: CECT abdomen shows telescoping of small bowel into ascending colon and hepatic flexure along with mesenteric vessels.

Pre-operative workup done, underwent emergency laparotomy revealed an antimesenteric mass in right hepatic flexure suggesting ileocolic intussusception, proceeded with right hemicolectomy which includes 16 cm proximal and 15 cm distal margins and performed side-to-side ileo-transverse anastomosis (Figure 3 and 4). Uneventful post-operative period.



Figure 3: Intra-operative finding of intussusception (arrow-lead point).



Figure 4: Resected right hemicolectomy specimen.

HPE of the resected specimen confirms the presence of a large mass of size 7×4×2 cm in submucosa with malignant infiltration up to serosa, defining high grade diffuse large b cell lymphoma non-Hodgkin lymphoma, immunohistochemistry stains nuclear positivity for cluster of differentiation, CD-20 >80% diffuse positive, ki-67 >90% positive, CD-5 and cyclin D1 negative (Figure 5).



Figure 5: Immunohistochemistry images (a) CD-20 positivity, and (b) Ki-67 positivity.

DISCUSSION

Intussusception occurs when a proximal portion of bowel invaginates into more distal bowel, a major cause of intestinal obstruction in children.⁷ Adult intussusception rare and accounts for 5%, featuring pain, abdominal distension, nausea, vomiting and in 10% of the patient mass, bloody stool observed. Subdivided into 4 types, enteroenteric, enterocolic, ileocecal, colocolic.⁸ Causes may be idiopathic 10% or secondary to viral infection, organic lesion like neoplasm.

Postoperative intussusception (POI) occurs in 0.01-0.25%. Symptoms arise within 1 week in 64% and 2 weeks in 90% of patients respectively.⁹ The exact mechanism is not known, believed to be local spasm, oedema of the bowel wall, leading point of invagination of bowel with a small abscess in the appendiceal stump and also in conditions like prolonged anaesthesia with electrolyte imbalance, anastomotic suture line, and presence of intestinal tube.

Non-Hodgkin lymphoma (NHL) is more common than Hodgkin lymphoma, gastrointestinal tract (GIT) is the most common site of extranodal NHL. A most common site in GIT is stomach followed by the small intestine. GIT NHL forms 1-4% of all GI malignancies. Lymphomas categorized into extranodal marginal zone mucosal-associated lymphoid tissue (MALT), follicular, mantle, diffuse large B cell, and Burkitt lymphomas.¹⁰ Mostly complaints are non-specific.

Diagnostic criteria for primary GIT NHL include: absence of superficial lymphadenopathy in physical examination, absence of mediastinal lymphadenopathy in chest imaging, normal peripheral blood count, and absence of splenic or hepatic involvement.¹¹ Classification on clinical staging by Ann arbor, on HPE by the World Health Organization (WHO).

Ultrasound abdomen, tool for diagnosis in both adult and children shows, target or doughnut sign in transverse and pseudo-kidney, sandwich, and hayfork sign in longitudinal views. Computed tomography (CT) abdomen most sensitive and diagnostic accuracy of confirmation, and bowel in bowel configuration with mesenteric fat and vessels (sausage-shaped mass) compromised between walls of the bowel is pathognomonic.¹² Laparoscopic modality is 100% diagnostic.

Limited resection of involved segments fancied. Reduction not recommended in inflammation, ischaemic changes of bowel and possibilities of malignancy not ruled out.¹³ Tumour spillage in reduction could be fatal.

Each type of lymphoma has different cell type origin and response to therapy. Literature thought on treatment is controversial; surgery versus surgery plus chemotherapy. The regimen used is rituximab, cyclophosphamide, doxorubicin, vincristine and prednisolone (CHOP or R-CHOP) in a low-grade tumour.¹⁴ In a high-grade tumour,

age >60 years, T cell phenotype, Ann arbor stage 3 and 4, and extranodal sites >2, with high proliferation (Ki 67), surgery plus chemotherapy are recommended.¹⁵

CONCLUSION

In this case, emergency laparotomy was done in view of post appendectomy intussusception leading to intestinal obstruction, with blindsiding HPE report of diffuse large B cell lymphoma. Surgery plus chemotherapy is warranted being a high-grade tumour. Surgery must be restricted to the primary tumour, with mesenteric lymph node involvement based on oncological principles. Timely surgical exploration is a key intervention that will preserve intestinal viability due to pre-operative diagnosing difficulty faced by the surgeon. Laparoscopic approach is preferred nowadays.

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