An Unusual and Malignant Intussusception in Children

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Abstract
Renal artery embolism (RAE) is a rare disease, and its clinical features and diagnostic tools are mysterious to most physicians. Anticoagulants, surgery, and thrombolytic therapies have been used to treat patients with RAE. However, there is no universal protocol for the proper management of RAE and the timing of treatment. This variation in treatment management further impairs the comparison of different therapies, complications and prognoses.

We reported a RAE patient who underwent intra-arterial urokinase treatment. A detailed literature search found that the most common presentations of RAE are localized pain in the flank/abdomen, nausea and vomiting, and fever. A few laboratory abnormalities, including elevations of lactic dehydrogenase, C-reactive protein, and white cell count, as well as unexplained proteinuria and hematuria, are useful screening tools for RAE. A contrast-enhanced computed tomographic scan of the abdomen is currently the best diagnostic tool. Anticoagulants are an effective and safe treatment, resulting in a fair prognosis for RAE cases. The rates of mortality and long-term hemodialysis are low. Surgery and intra-arterial thrombolytic therapy should be reserved in cases where the aggressive preservation of residual renal function is necessary in patients with deteriorated renal function or only one functional kidney. In addition, concurrent and subsequent thrombolytic events in other organs are common in patients with RAE.

Keywords: Malignant tumour; Small intestine; Bowel obstruction; Surgery; Child

Case History
An 8-year-old boy presented with previous medical history of abdominal pain and nausea with vomiting following meals. His symptoms progressively worsened to severe anorexia, weight loss, constipation, and bilious vomiting on the day of admission. Two months earlier the patient had similar symptoms. His vital signs on admission were within normal limits. He had generalized tenderness without peritoneal signs. No palpable mass was identified. Bowel sounds were exaggerated. Digital rectal examination was normal. He did not present fever, chills, bleeding per rectum, or previous abdominal surgeries. His laboratory investigations only showed increased C-reactive protein and hyperkalemia (2.5 mg/L, normal range 0–0.5 mg/L). Liver function tests were normal. His laboratory investigations only showed increased C-reactive protein and hyperkalemia. No palpable mass was identified. Bowel sounds were exaggerated. Digital rectal examination was normal. He did not present fever, chills, bleeding per rectum, or previous abdominal surgeries.

Abdominal X-ray revealed no specific bowel gas pattern with gaseous distention of several small bowel loops. Focused sonography of the right lower quadrant reported a “target sign” or “doughnut”, pseudo kidney/sandwich appearance (Figure 1), suggesting bowel intussusception. This abdominal ultrasonography imaging has a high sensitivity and specificity in its detection and it is usually not mistaken for other intestinal diseases.

Abdominal CT revealed a typical target-appearing lesion, extending for approximately 16 cm of the terminal ileum and ascending colon into the transverse colon. Liver metastasis was also described. Emergency laparotomy confirmed a distal ileo-colic intussusception. The laparotomy was performed and was noted a ileo-colic intussusception with a 4 cm x 4 cm intraluminal growth in the lumen, large and hard mesenteric mass. Were also detected enlarged mesenteric lymph-nodes (Figure 2). The involved segment presented edema and initial mesenteric mass. Were also detected enlarged mesenteric lymph-nodes (Figure 2). The involved segment presented edema and initial mesenteric mass. Were also detected enlarged mesenteric lymph-nodes (Figure 2). The involved segment presented edema and initial mesenteric mass. Were also detected enlarged mesenteric lymph-nodes (Figure 2).

The resection was complete with viable ends. Postoperatively, the patient made an uneventful recovery and was allowed oral clear fluids on five postoperative day and semisolid diet on the seventh postoperative day. The patient in the follow-up period underwent contrast enhanced CT scan of the thorax, abdomen and pelvis to look for synchronous lesions detected at the admission (hepatic lesions). Therefore, the child was thereafter referred to the Medical Oncology and Radiation Oncology Department where he is being considered for adjuvant chemotherapy and is under fortnightly follow-up.

The leading point of the invagination was a diffuse large B-cell lymphoma (DLBCL), measuring 4×4 cm, consisting of centroblastic/polytomorphic cells of intermediate-large size; CD20+, CD10+, bcl2-, bcl6+, CD5-, D1, CKAE1-AE3, AML- MIB > 70%. All nodes showed strangles reactive hyperplastic follicle-sinus histiocytosis and lymphostasis.

Intussusception is often seen in infants and children; it can be...
multicenter study found that primary surgical resection was associated with a favourable prognosis in cases of intestinal DLBCL, encouraging surgical resection as primary treatment [9]. Conversely, it has been also reported an increased risk of gastric adenocarcinoma after treatment of primary gastric lymphoma, especially of diffuse large B-cell lymphoma [10]. Finally, there is no consensus on the optimal treatment against primary gastrointestinal DLBCL [3].

In conclusion, we describe a case of large B-cell lymphoma causing an ileo-colic intussusception in children. In cases of intussusception, especially in the older age group of the children, we need to keep a high index of suspicion for malignant lymphoma of the bowel, including DLBCL.

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References


Figure 2: Resected specimen showing the large B-cell lymphoma.