



■ Clinic case

Ileocolic intussusception secondary to Hodgkin's lymphoma. Report of a case

Luque-de-León E, Sánchez-Pérez MA, Muñoz-Juárez M, Cordera-González de Cosío F, Moreno-Paquentin E, Toledo-Valdovinos S.

Staff Surgeon from the American British Cowdray Medical Center, Mexico City

Recibido el 14 de mayo de 2010; aceptado el 13 de julio de 2010.

■ Abstract

Intussusception is a rare condition in adults and represents 1% to 5% of the total cases of intestinal obstruction. Preoperative diagnosis occurs only in a few patients and most of the cases are diagnosed during surgery. A demonstrable etiology is found in 70% to 90% of cases in adult intussusceptions, and approximately 40% of them are caused by primary or secondary malignant tumors. We report the case of a 32 year old male patient with an ileocolic intussusception secondary to Hodgkin's lymphoma, as well as the surgical treatment, and outcome.

Keywords:
Intussusception;
Hodgkin's lymphoma;
intestinal obstruction;
intestinal neoplasms;
surgery; Mexico.

■ Resumen

La invaginación en el paciente adulto es una condición clínica poco frecuente y representa de 1% a 5% del total de casos de obstrucción intestinal. El diagnóstico preoperatorio se realiza en la minoría de los pacientes, y la mayor parte de las veces, el diagnóstico de intususcepción se hace durante la cirugía. En 70% a 90% de los casos de intususcepción, se identifica la etiología del problema y aproximadamente en 40% es debido a una neoplasia primaria o secundaria en el sitio de la invaginación. Reportamos el caso de un hombre de 32 años de edad con una intususcepción ileocólica secundaria a linfoma de Hodgkin, su tratamiento quirúrgico y evolución postoperatoria.

Palabras clave:
Intususcepción;
Linfoma de Hodg-
kin;
obstrucción
intestinal;
neoplasias
intestinales;
cirugía; México.

■ Introduction

Intussusception is primarily a disease of childhood; only about 5% to 10% occurs in adults. About 90% of adult intussusceptions have a demonstrable cause. Malignant lymphoma of the gastrointestinal tract is a cause of intussusceptions. Surgical resection without reduction of the affected segment is recommended because of the malignant etiology in at least 40% of the cases. In this patient, the etiology of the ileocolic intussusception was a Hodgkin's lymphoma.

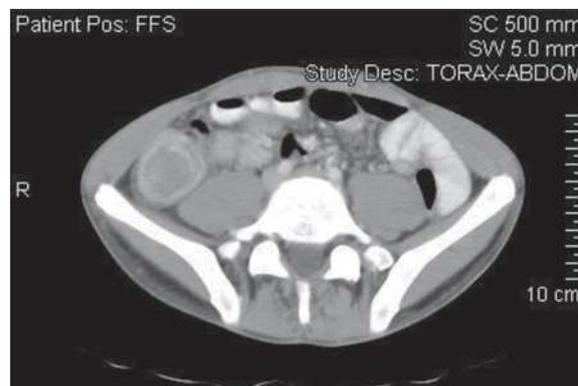
■ Case report

A 32 year old male was admitted to the emergency room with sudden-onset, crampy abdominal pain, nausea, and vomiting lasting for 10 hours. He had presented with similar symptoms in the past. On physical examination the abdomen was distended, tender and a four centimeters olive-like mass was palpated in the right lower quadrant. Abdominal X-ray showed nonspecific dilation of small-bowel loops. An abdominal tomography was performed and a target sign image was found in proximity to the ileocecal area (**Figure 1**). A colonoscopy showed a large mass protruding into the cecum through the ileocecal valve (**Figure 2**). Colonoscopic and tomographic findings were consistent with the diagnosis of ileocolic intussusception and the patient was taken to the operating room for an emergent laparotomy. Intraoperative findings included dilated small bowel and an ileocolic intussusception. The intussusception was not reduced and a right hemicolectomy with stapled ileocolostomy was performed (**Figure 3**). Pathological examination was consistent with Hodgkin's lymphoma-scleronodular type as the cause of ileocolic intussusception (**Figure 4**). The patient received postoperative chemotherapy for six months (cyclophosphamide, doxorubicin, vincristine, and prednisone). At seven years follow-up the patient is asymptomatic without evidence of tumor activity and with normal gastrointestinal function.

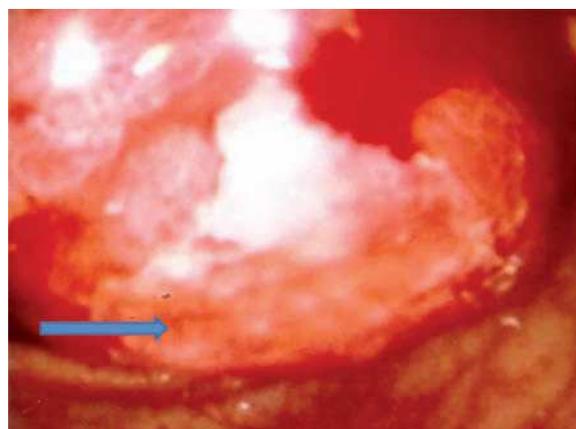
■ Discussion

Although intussusception is frequent during childhood, it is a rare condition in adults.¹⁻⁴ The first description of intussusception appeared in 1793 by Hunter.⁵ In adults this condition represents 1%

■ **Figure 1.** Contrast enhanced CT scans demonstrated an ileocolic intussusception.



■ **Figure 2.** An intracolonic mass is observed during colonoscopy and is consistent with the intussuscepted ileon.

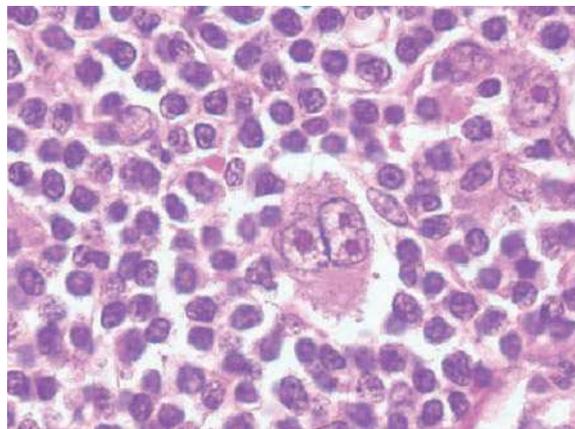


to 5% of the total cases of intestinal obstruction with an incidence of 2-3 cases for 1,000,000 inhabitants.¹⁻⁴ Adults with intussusception have an organic lesion within the intussusception in 70% to 90% of cases.⁶ In 20% to 55% the etiologic agent is a primary or secondary malignancy,^{1,2,6,7} and 15% to 25% of cases are due to non-neoplastic conditions including postoperative adhesions, Meckel's diverticulum, infectious lymphoid hyperplasia, trauma, celiac disease, cytomegalovirus colitis, lymphoid hyperplasia secondary to lupus, Henoch-Schönlein purpura,¹⁻⁷ Non-Hodgkin lymphoma,⁸

■ **Figure 3.** Surgical specimen showing peri-colonic lymphatic nodes increased in size.



■ **Figure 4.** Microscopic view of the tumor. These cells are diagnostic of Hodgkin's disease.



and Wiskott-Aldrich syndrome.⁹ Intussusception also complicates cystic fibrosis in approximately 1% of patients. Patients with Peutz-Jeghers syndrome, familial polyposis, nephritic syndrome, mesenteric nodes and inverted appendiceal stump are also predisposed to developing intussusceptions.⁵

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.¹⁻³ The clinical presentation of adult intussusception varies considerably. The most common presenting symptoms are abdominal pain, nausea and vomiting, in the acute presentation. Intermittent abdominal pain and vomiting are the major symptoms of subacute or chronic presentations.⁶ Several imaging techniques may help to establish the diagnosis. These studies include a plain abdominal X-ray which may show an intestinal obstruction and contrast studies that can help to identify the site and cause of intussusception. An upper gastrointestinal series may show "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. Classic ultrasound findings include the target and doughnut sign on a transverse view and the pseudokidney sign in the longitudinal view.⁶ The computerized tomography (CT) findings of intussusception are virtually pathognomonic.¹⁰ In this study the intussusception

appears as a mass lesion, representing a thickened segment of bowel which corresponds to the intussusceptum and the intussuscepti which contains a relatively central area of fat which may show vessels that enhance with the intravenous contrast.^{6,10} The magnetic resonance imaging (MRI) findings of adult intussusception are similar to those in CT.¹⁰ Flexible sigmoidoscopy and colonoscopy are of paramount importance in evaluating intussusception presenting with subacute or chronic large-bowel obstruction.⁶ Endoscopically, intussusception is seen as an intraluminal mass directed centrally and distally.⁷ However, the diagnosis made by colonoscopy is rare and most of the times the diagnosis is performed during surgery. In our case, the diagnosis was made prior to surgery on the basis of clinical picture, imaging studies and colonoscopic findings. The treatment of adult intussusception is not universally agreed upon.¹⁰ Most authors agree that laparotomy is mandatory, based on the likelihood of an underlying pathologic lesion.^{6,10} 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.^{1,5} The theoretic objections to reduction of grossly viable bowel with mucosal necrosis are: 1) intraluminal seeding and venous embolization 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.⁶ 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.^{1,6}

■ Conclusion

Intussusception in adults is a rare condition and represents a challenge for the surgeon. Imaging studies are essential to establish the diagnosis preoperatively. During surgery, when malignancy is suspected to be the cause of the intussusception, it is best to perform a resection of the affected bowel without reduction of the bowel to avoid the dissemination of neoplastic cells.

References

1. Takeuchi K, Tsuzuki Y, Ando T, et al. The diagnosis and treatment of adult intussusception. *J Clin Gastroenterol* 2003;36:18-21.
2. Eisen L, Cunningham J, Aufses A. Intussusception in adults: Institutional review. *J Am Coll Surg* 1999;188:390-395.
3. Medina H, Ramos A, Arista J. Intussuscepción en adultos: presentación de un caso con etiología poco común y revisión de la literatura. *Rev Gastroenterol Mex* 2002;67:104-106.
4. Warshauer D, Lee J. Adult intussusception detected at CT and MR imaging: Clinical-imaging correlation. *Radiology* 1999;212:853-860.
5. Waseem M, Kotlus H. Intussusception. *Pediatr Emerg Care* 2008;24:793-800.
6. Zubaidi A, Al-Saif F, Silverman R. Adult intussusception: A retrospective review. *Dis Colon Rectum* 2006;49:1546-1551.
7. Berkelhammer C, Caed D, Mesleh G, et al. Ileocecal intussusception of small-bowel lymphoma: Diagnosis by colonoscopy. *J Clin Gastroenterol* 1997;25:358-361.
8. Samel S, Frudenberg S, Diehl S, Gaa J. Small-bowel intussusception from malignant post-transplantation non-Hodgkin's lymphoma. *J Am Coll Surg* 2001;190:223.
9. Pasic S, Vujic D, Djuricic S, Jetvic D, Grujic B. Burkitt lymphoma-induced ileocolic intussusception in Wiskott-Aldrich syndrome. *J Pediatr Hematol Oncol* 2006;28:48-49.
10. Huang B, Warshauer D. Adult intussusception: Diagnosis and clinical relevance. *Radiol Clin N Am* 2003;41:1137-1151.