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ABSTRACT

INTRODUCTION: Intussusception in adult patients represents 5% of all intussusceptions and 1–5% of bowel obstructions in adults. In contrast to pediatric patients, 90% of the time, in adults, it's caused by well-established pathologic mechanisms, such as carcinoma, polyps, diverticula, Meckel diverticula, stenosis, or benign neoplasms. Small intestine intussusceptions are more frequent, but colonic intussusceptions are caused 50% of the time by malignant neoplasms, especially adenocarcinoma.

PRESENTATION OF CASE: We present a 70-year-old woman, with no relevant familial history, who presented with a 3-day symptomatology consisting of epigastric, colic, diffuse, abdominal pain of moderate intensity, which progressed till reaching a severe intensity, also referring abdominal distension, nausea, and gastrointestinal-content vomits.

DISCUSSION: In adult patients, the exact mechanism of intussusception is unknown in 8–20% of the cases, however, secondary intussusception can occur with any lesion of the intestinal wall or any irritant factor in its lumen that alters normal peristaltic activity and that could serve as a trigger to start an intussusception of one bowel segment over another the most common site is the small intestine.

CONCLUSION: Intussusception represents an unusual problem in adult patients; it requires a high clinical suspicion, mainly as a differential diagnosis in patients with intestinal obstruction, and it clinically presents as a subacute or chronic illness. CT represents the most useful diagnostic tool. An attempt to perform reduction procedures in small intestine intussusceptions can be done, however, in ileocolic or colonic intussusceptions, a formal resection of the segment is recommended.

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1. Introduction

Intussusception in adult patients represents 5% of all intussusceptions and 1–5% of bowel obstructions in adults. In contrast to pediatric patients, 90% of the time, in adults, it's caused by well-established pathologic mechanisms, such as carcinoma, polyps, diverticula, Meckel diverticula, stenosis, or benign neoplasms.¹ Small intestine intussusceptions are more frequent, but colonic intussusceptions are caused 50% of the time by malignant neoplasms, especially adenocarcinoma. The most common symptoms of presentation in adults are nausea, vomit, intermittent, colic abdominal pain, and constipation.²

2. Case report

We present a 70-year-old woman, with no relevant familial history, who presented with a 3-day symptomatology consisting of

epigastric, colic, diffuse, abdominal pain, of moderate intensity, which progressed till reaching a severe intensity, also referring abdominal distension, nausea, and 4 gastrointestinal-content vomits. Upon physical examination at arrival, the patient was found conscious, oriented, with skin paleness, poorly hydrated; thorax with adequate vesicular murmur, without wheezing or rattles, adequate amplexion and amplexation, cardiac sounds with only S1 and S2, without aggregated sounds; soft, distended abdomen, with increased-frequency peristalsis, diffuse pain upon palpation, and rebound tenderness (Blumberg sign); and adequate peripheral pulses.

While in the Emergency Room, laboratorial tests reported values of hemoglobin at 16.7 g/dL, 51.2% hematocrit, 551,000 mm⁻³ platelets, 23,800 mm⁻³ leukocytes, 88% neutrophilia, and blood chemistry within normal parameters. Because of the frank leukocytosis and signs of acute abdomen, a computed abdomen tomography (CT) was performed, with reported findings suggesting ileo-colic intussusception, with a tumoral image of pedicle aspect adjacent to the terminal ileum, with probable secondary intestinal occlusion, nodular images of unknown origin on the liver, and Bosniak category I cystic images on the right kidney (Figs. 1 and 2).

Considering this CT result, coagulation times and tumor markers (CEA, AFP, CA 125, and CA 19–9) were submitted, finding normal results.

The patient was submitted to an exploratory laparotomy, with findings of a 6 cm tumor on the ileo-caecal segment, responsible

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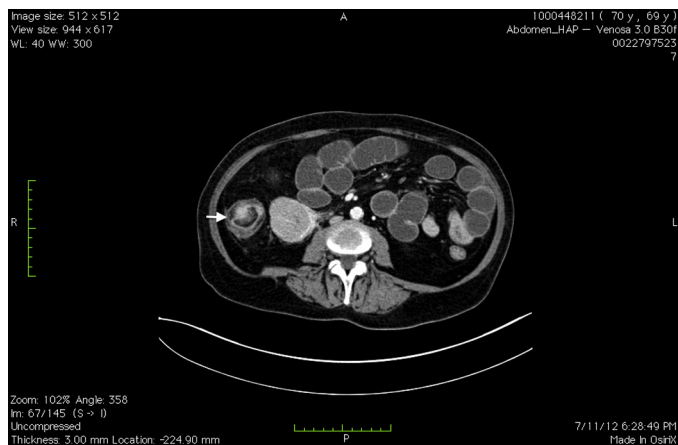


Fig. 1. CT showing the classical “Target” image.



Fig. 2. CT showing nodular images in the liver.

for an intussusception of that segment, as well as multiple bilateral hepatic metastases (Fig. 3). A radical right hemicolectomy, with resection of the terminal ileum tumor (20 cm), and side-to-side ileotransverse anastomosis was performed, in addition to a hepatic biopsy.

The surgical samples were sent to Pathology department, which reported a massive, ileo-caecal, transmural, classical carcinoid tumor, with extension to pericaecal tissues (confined tumor of

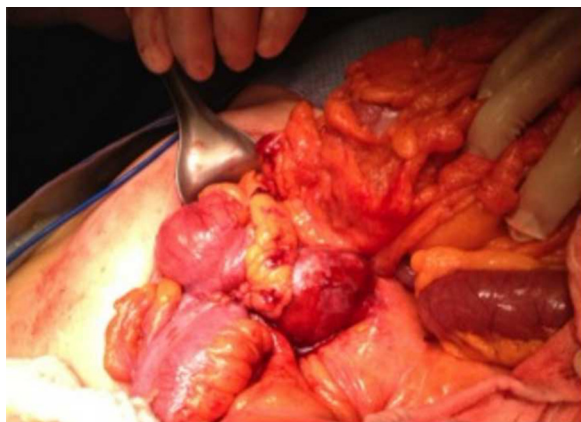


Fig. 3. Laparotomy finding of an ileo-caecal mass.



Fig. 4. Terminal ileum segment and ascending colon with neoplasia.

6 cm × 4 cm × 4 cm) and accentuated ileo-caecal valve and caecum stenosis, metastatic carcinoid in 2 of 14 ileo-caecal lymph nodes, and metastatic carcinoid of a less differentiated morphology in the hepatic biopsy (Figs. 4 and 5).

After surgery, chromogranin A levels were measured and the results were reported in the normal range. The patient was referred to the oncologist for the follow up of the liver metastases, with medical treatment during eighteen months. Until today the patient is clinically stable, with normal levels of CgA and without new hepatic lesions or changes of the known ones.

3. Discussion

In adult patients, the exact mechanism of intussusception is unknown in 8–20% of the cases, however, secondary intussusception can occur with any lesion of the intestinal wall or any irritant factor in its lumen that alters normal peristaltic activity and that could serve as a trigger to start an intussusception of one bowel segment over another¹; the most common site is the small intestine, just like it happened in our patient, and with afterwards identification of an ileo-caecal carcinoid tumor as the main cause.

The symptomatology of this disease is usually non-specific, commonly including symptoms of intestinal obstruction, including nausea, vomit, abdominal distention, and intermittent constipation, according to a previously published series of cases, presenting mostly acute development of the pathology in 24–48 h³; in comparison, our patient' onset of symptoms was slightly slower, and abdominal distention was the main symptom.

Conventional lab studies are generally non-specific for this pathology, although our patient developed a sharp leukocytosis

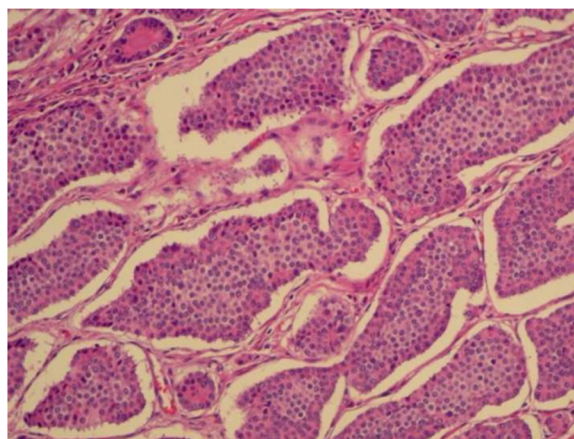


Fig. 5. Histologic findings showing uniform round cells with eosinophilic cytoplasm.

with neutrophilia; however, the main diagnostic support consists on imaging studies. On pediatric patients, the diagnosis is mainly made using ultrasound or barium-enema studies; however, on adult patients, the CT is the main diagnostic tool, being additionally helpful in establishing the underlying cause.⁴ The distinctive sign in early stages is the “target” image, which was found in the CT of our patient (Fig. 1). Enhanced CT has become a valuable tool in the diagnosis of bowel obstruction, because it allows imaging of structures other than just mucosal detail, which may outline both the site as well and as the etiology of the obstruction. It also demonstrates changes in the intestinal wall and associated mesentery. IV enhanced CT doesn't have the detrimental effects one can see with oral agents, so its indicated in both partial and complete obstruction.⁵

Typically, the initial diagnosis is ignored because of the acute, subacute or chronic presence of nonspecific symptoms; however, the therapeutic decision is established intraoperatively, and in situations in which the colon is involved, a formal resection that includes lymph-node dissection is indicated, because up to 50% of the time, a malignant lesion is associated (in our patient, a right hemicolectomy with lymph-node dissection was performed because of the finding of a 6 cm × 4 cm × 4 cm tumor on the ileo-caecal valve).

Carcinoid tumors represent the most frequent neuroendocrine neoplasms in the gastrointestinal (GI) tract, and they basically derive from enterochromaffin (or Kulchitsky) cells.⁶ There's a great diversity in its bodily distribution; however, in a study made in 11,427 patients with carcinoid-tumor diagnosis, 54.5% occurred in the GI tract, followed by lungs and bronchi (30.1%). Within the GI tract, the small intestine was the most common site: 44.7%.⁷

4. Conclusion

Intussusception represents an unusual problem in adult patients; it requires a high clinical suspicion, mainly as a differential diagnosis in patients with intestinal obstruction, and it clinically presents as a subacute or chronic illness. CT represents the most useful diagnostic tool. An attempt to perform reduction procedures in small intestine intussusceptions can be done, however, in

ileocolic or colonic intussusceptions, a formal resection of the segment is recommended.

Conflict of interest

No conflict of interest for any of the authors in this case report.

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None.

Ethical Approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

Carlos Gonzalez Alvarado and Gregorio Zubieta-O'Farrill performed data collection, analysis and writing. Isidoro Wiener, Mario Cervantes and Denis Echaverry did data collection while Andres Gudiño-Chavez did the writing job.

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