**Abstract**

**Introduction.** Ileocecal valve adenocarcinoma is a very rare cause of bowel obstruction, very difficult to diagnose prior to surgical intervention for emergency indication. Most of the patients are symptomatic only when complications occur.

**Case report.** We present an exceptionally rare case of adenocarcinoma involving only the ileocecal valve, which was diagnosed intraoperatively during emergency surgery for acute bowel obstruction. The patient presented with acute bowel obstruction symptoms. Plain abdominal X-ray revealed multiple hydroaeric images suggestive for small bowel obstruction. Worsening of the symptoms leads to the decision to perform emergency surgery for acute bowel obstruction. Intraoperative palpation of cecum revealed a small tumor of the ileocecal junction, with no expression to serosa, and determining a complete stenosis at this level.

**Discussion.** The structures of the ileocecum may be involved in many pathological processes, many of them being common in clinical practice. The disease may involve only one of the structures, several of them simultaneously or may be part of a general process. In this case, there was no expression on the serosa, no

**Résumé**

**Introduction.** L’adénocarcinome valvulaire iléo-cæcale est une cause rare d’obstruction intestinale et peut être très difficile à diagnostiquer avant l’intervention chirurgicale en cas d’indication d’urgence. La plupart des patients deviennent symptomatiques seulement lorsque des complications et la croissance tumorale se produisent, donc un bon diagnostic avant l’intervention chirurgicale en cas d’indication d’urgence est échappé.

**Rapport de cas.** Dans cet article, nous présentons un cas exceptionnellement rare d’adénocarcinome impliquant seulement la valvule iléo-cæcale, qui a été diagnostiqué en intra-opératoire lors d’une intervention chirurgicale d’urgence pour une obstruction intestinale aigüe. La présentation clinique consistait en symptômes d’occlusion intestinale aigüe. La radiographie abdominale simple a révélé de multiples images hydroaéresitives suggestives pour l’obstruction de l’intestin grêle. L’aggravation des symptômes a déterminé la décision d’effectuer une chirurgie d’urgence pour une obstruction intestinale aigüe. La palpation du caecum...
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mesenteric retraction or macroscopic adenopathy to signalize the place of the tumor. Only the abrupt transition from dilated small bowel loops to empty right colon, along with palpatory detection of the tumor revealed the diagnosis.

**Conclusion.** Ileocecal valve tumor evolution leads to acute bowel obstruction due to small caliber of the valve. Diagnosis is often delayed due to lack of specific symptoms and effective screening methods, and the onset is often due to complication (obstruction). Neoplasms of ileocecal valve are very rare, in the medical literature being reported only a small number of cases.

**Keywords:** ileocecal valve, colonic neoplasia, right hemicolecotomy.

**INTRODUCTION**

Ileocecal valve adenocarcinoma is very rare, only few cases being reported in the literature. While adenocarcinomas developed from the ampulla of Vater and the periampullary region are typically included in the category of small bowel adenocarcinomas, those arising from the ileocecal valve, appendix, and Meckel’s diverticulum are excluded. An increased risk of developing small bowel adenocarcinoma has been described in patients with inflammatory bowel disease, familial adenomatous polyposis and hereditary nonpolyposis colorectal cancer.

The clinical manifestations are non-specific, varying from right lower abdominal discomfort to intestinal obstruction. Although there are some X-Ray findings suggestive of malignant tumors of the valve, preoperative diagnosis is extremely difficult. Particularly, the infiltrative type of carcinoma of the ileocecal valve may be easily misdiagnosed by X-Ray imaging and clinical symptoms of inflammatory bowel disease.

Most of the patients become symptomatic only when complications and tumor growth occur, therefore diagnosis prior to emergency surgical intervention is rare.

In this article, we present an exceptionally rare case of adenocarcinoma involving only the ileocecal valve, which was diagnosed intraoperatively during emergency surgery for acute bowel obstruction.

**CASE PRESENTATION**

We present the case of a 77 year old man, admitted 10 days before for signs of acute bowel obstruction. He was diagnosed with post-appendectomy adherent bowel obstruction, before surgery. The past medical history included signs of recurrent bowel obstruction, starting two months ago, with abdominal pain and intermittent abdominal distention followed by diarrhea. The patient presented with symptoms and signs of acute bowel obstruction: abdominal pain, lack of intestinal transit for both gases and stools, and vomiting. The physical examination showed abdominal distention and tenderness. Plain abdominal X-ray revealed multiple hydro-aeric images suggestive for small bowel obstruction. Because the symptoms improved and the intestinal transit restarted, the patient was referred for colonoscopy, which
was followed by barium enema due to technical difficulties to overpass the right angle of the colon. Both investigations did not detect any pathological changes. The patient refused the exploratory laparoscopy, and therefore he was discharged with diagnosis of post-appendectomy adherent syndrome.

On the current admission, laboratory tests were done, with normal results, excepting increased prothrombin time and INR values, due to chronic anticoagulant treatment for an old acute myocardial infarction. The plain abdominal X-ray revealed the same multiple hydroaeric images suggestive for small bowel obstruction as in the previous hospitalization, but worsening in dynamics (Fig. 1 and Fig. 2).

The emergency abdominal ultrasonography showed dilated small bowel segments and a minimal amount of free fluid in Morrison space (Fig. 3). Pulmonary X-ray result was normal.

Emergency surgery was performed, for acute bowel obstruction. The preoperative diagnosis was
small bowel obstruction due to post-appendectomy adhesions. We did a median abdominal incision. Minimal free serous fluid has been found by exploration of the peritoneal cavity, with dilated small bowel segments, from angle of Treitz to cecum, and a normal colic loop, without any post-operative adhesions. Palpation of cecum revealed a small tumor situated at the ileocecal junction, with no expression to serosa, and determining a complete stenosis at this level. Right hemicolectomy and peritoneal drainage were performed. The macroscopic aspect of the resection specimen is shown in figure 4.

The postoperative evolution was without complications, with early mobilization, oral food intake starting 24 hours after surgery and bowel transit reestablished in the first 72 h after surgery. The peritoneal drainage was suppressed on day 5. The patient was discharged on the 6th day, with complete surgical healing.

The histopathological examination of the resection specimen revealed a moderately differentiated, ulcerative adenocarcinoma of the ileocecal valve, with invasion of the muscular layer (Fig. 5).

**DISCUSSION**

Acute pain in the right iliac fossa is one of the most common symptoms in patients admitted in surgical wards. Many pathologies may present with acute pain in the right iliac fossa, with diverse therapeutic approaches (surgical/non-surgical). The exact etiological diagnosis in most of the cases is possible due to imaging techniques. In the case presented, previous imaging investigation could not detect the presence of the tumor, before complications occurred. The diagnosis was established only intraoperatively.

The structures of the ileocecum may be involved in many pathological processes, many of them being common in clinical practice. The disease may involve only one of the structures, several of them simultaneously or may be part of a general process. In this case, there was no expression on the serosa, no mesenteric retraction or macroscopic adenopathy to signalize the place of tumor. Only the abrupt transition from dilated small bowel loops to empty right colon, along with palpable detection of the tumor, revealed the diagnosis.

The clinical presentations are variable, from asymptomatic patients to severe cases of acute abdomen. In these situations, the role of imaging is crucial. In our patient, imaging investigations could only detect the acute bowel obstruction by revealing hydroaerotic images (plain abdominal X-ray and free peritoneal fluid, along with dilated small bowel loops (ultrasound abdominal examination). The clinical onset by an acute complication (bowel obstruction) and the short time from admission to surgical intervention left no time for an accurate preoperative diagnosis.

Although imaging findings suggestive of malignant tumors of the ileocecal valve have been described, these lesions are often difficult to detect, especially in the presence of obstruction. Lack of general neoplastic symptoms and failure to detect the ileocecal valve tumor in the prior admission misled the diagnosis of adherent syndrome, sustained by appendectomy in the past medical history and recent recurrent symptoms of acute bowel obstruction. Due to the small calibre of ileocecal valve, a shorter evolution than in other colonic localization led to early acute bowel obstruction by tumor, with lack of general signs and symptoms of neoplasia.

**CONCLUSIONS**

Ileocecal valve tumor evolution is fast toward acute bowel obstruction due to small calibre of the valve. Diagnosis is often delayed due to lack of specific symptoms and effective screening methods, and the clinical onset is often by complication (obstruction).

The overall staging and pattern of spread is similar to that of colorectal cancer, but on a stage-for-stage basis, prognosis is worse for small bowel adenocarcinoma. Resectability of the primary tumor is a key prognostic factor, along with age, performance status and presence of distant metastasis.

Surgery is the mainstay of treatment for both localized and locally advanced disease. Careful intraoperative assessment, including evaluation of the tract of the bowel involved, inspection and palpation of the liver, resection and examination of the specimen are essential to identify malignancy. If neoplastic lesion of ileocecal valve is suspected, the right hemicolectomy is the procedure of choice.

Despite the actual diagnosis and the onset by an acute complication, the long term vital prognosis for

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**Figure 5. Microscopic aspect of ileocecal valve adenocarcinoma**
patients with ileocecal valve tumor seems to be better than for other bowel localization. This is due to the short evolution and, consecutively, to a smaller window of opportunity for metastatic process to develop.

Differential diagnosis includes cecal carcinoids that generally arise near the ileocecal valve and share histopathologic and clinical features with ileal carcinoids. Adenomatous polyp or benign ulceration of the ileocecal valve are also two very rare and distinct entities, with symptoms similar with ileocecal valve tumors.\textsuperscript{15,16}

Neoplasms of ileocecal valve are very rare, in the medical literature being reported only a small number of cases.

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Conflict of interest: nothing to declare

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