Case report

Stercorary aseptic peritonitis due to diastatic caecal perforation: computed tomography findings

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Abstract. Caecal perforation is a complication secondary to colon obstruction. It may present with insidious clinical features and may be associated with chronic constipation. The event may become severe due to the peritonitic development. We present a case of caecal perforation associated with sub-occlusive carcinoma of the left colon and hypotonic colitis caused by chronic lavative abuse, demonstrated with Computed Tomography. (www.actabiomedica.it)

Key words: Computed Tomography, caecal perforation, laxativa abuse, colon carcinoma

Introduction

Caecal perforation may represent a complication of stenotic colon carcinoma in any of its segments. It is associated with the conspicuous diffusion in segments proximal to the obstruction (1).

Usually, it determines an insidious onset of the neoplastic disease that, prior to this manifestation, was referred to as constipation.

The high rate of mortality associated with this event is linked to the transition of faecal material in the peritoneal cavity that consequently evolves in peritonitis (2).

We present the case of a patient suffering from a sub-occlusive carcinoma of the left colon and hypotonic colitis, due to a long period of laxative abuse, studied with Computerized Tomography (CT), and developing caecal perforation.

Case report

A 51-year-old woman was admitted to the Emergency Room of our University Hospital, with moderate abdominal pain lasting approximately a few hours and obstruction to faeces and air. The general conditions of the patient were good. The physical examination showed a soft abdomen, with moderate pain exacerbation but no evident signs of peritonism.

The lab tests were within normal limits; specifically the number of white blood cells (6000/mm^3) and the leucocyte formula were found normal.

The history of the patient reported years of constipation relieved by the use of phenolphtalein laxatives taken without medical control. According to what the patient declared, the constipation had slowly worsened in the previous weeks leading to the present clinical conditions.

Basal CT exam demonstrated a large amount of faecal material diffused in the peritoneal cavity. At the level of the proximal descending colon CT showed an irregular thickening of bowel walls and lymphagitic infiltration stripes within of the perivisceral fat. Hyperdensity of the peritoneal fat with a low fluid quantity. The patient underwent surgical treatment which showed the peritoneal cavity was full of excessive faecal material, due to the perforation of the caecum, whose linings were in a necrosis stage, diffusing to the ascending colon; the peritoneum showed haematosis and congestion, and was wet with mildly thick fluid.

Figure 1. Irregular wall thickening of the left colon with signs of lymphangitic infiltration of the surrounding peritoneal fat. Hyper-density of peritoneal fat with small amounts of fluid collection.

Figure 2. Bulky peritoneal faecal mass in the right iliac space.

The descending colon showed irregular thickening of its linings, causing a small reduction of the visceral lumen. After a thorough cleansing of the peritoneal cavity, a right emi-colectomy was performed, with ileo-transversestomy, and an extended segmentary resection of the descendent colon at the level of the thickened lining was also carried out. Antibiotics and adequate medical therapy were administered after surgery. Pathology of the surgical specimens showed the presence of an adenocarcinoma, with medium-degree malignancy, infiltrating the descending colon.

Discussion

Caecal perforation is an insidious complication of obstructive colon carcinoma that may also be located far from the obstruction itself (1, 2). Perforation of the proximal colonic segments are observed in approximately 2% of colon cancers. In fact, the permanence of faeces in the segment that is proximal to the neoplastic obstruction may cause catarrhal flogosis and erosion of the superficial layers of the colonic mucosa and extend deep into the organ walls determining ulcers and perforation. Furthermore, the considerable intestinal meteorism that causes the distension of the proximal segments of the colon determines a peristaltic insufficiency and fragility of the intestinal linings, with ischaemic effects (2, 3). The caecum is particularly exposed to this mechanism considering its thin walls and the retrograde inaccessibility of the Bahouin valve (1). The risk of perforation is relatively high if the intestinal diameter is greater than 10 cm (3).

In our case, the diastatic mechanism of the caecum is attributed to the ischemic necrosis of its linings associated with overpressure applied by the large amount of faeces. In our opinion the presence of descendent colon carcinoma with sub-occlusive characteristics, as demonstrated by surgery, only partially explained the large amount of faeces in the segments that were proximal to the neoplastic obstruction. As previously stated, the patient had a medical history of chronic constipation, treated with phenolphtaleine-based laxatives. Among the side effects of the continued use of these drugs, secondary hypotonic colitis and alterations of the mioenteric plexus are well known (4). The progressive worsening of the stipsis experienced for some weeks by the patient, associated with modest abdominal symptoms presented under our observation, showed that permanence of a the large amount of faecal material proximal to the neoplastic obstacle had a key role in causing intestinal hypotonicity.

Another interesting feature is the discrepancy between the patient's clinical condition and the results of the CT examination.

In spite of the visceral perforation and consequent transition of faecal material in the peritoneal cavity, that is highly irritating for the serum, the patient did not show either symptoms or typical signs of peritoneal inflammation (compromised general conditions, important neurovegetative disturbances, temperature increase, objective characteristics of peritonism), or alterations in the laboratory examinations (expecially in the neutrophyle leucocytosis). Furthermore the surgical inspection of the peritoneal cavity showed mildly thick fluid collection. This seems unique considering the high infective power of faecal material and the normal immunologic profile of the patient. It is possible that immediate surgery avoided the progression of the initial peritoneal infection to a secondary suppurative peritonitis, which has a high risk for mortality.

Conclusions

In conclusion, the CT findings (large amount of faecal material spread into the peritoneal cavity and the irregular lining thickening of the descendent colon), along with the patient history (laxative abuse) led to a diagnosis of colon perforation, which was hard to predict based on the clinical examination results, and to an early surgical treatment, which prevented the progression to septic peritonitis; the site of the visceral perforation was not easily determinable because of the large amount of faecal material that shadowed the intestinal ducts. However, this information was not relevant for the therapeutic strategy.

References

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