MESENTERIC DESMOID TUMOR AFTER ROUX-EN-Y GASTRIC BYPASS: A CASE REPORT

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ABSTRACT

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We report the case of a 37-year-old woman investigated for left flank pain 1 year after bariatric surgery (Roux-en-Y gastric bypass). Abdominal computed tomography (CT) revealed a solid intra-abdominal lesion measuring 9.3 × 9.4 × 10.4 cm, compressing adjacent structures with no signs of invasion. Ileocelectomy with partial mesenteric resection was performed. A histopathological and immunohistochemical analysis confirmed the diagnosis of mesenteric desmoid tumor.

Keywords: *Desmoid tumor; Roux-en-Y gastric bypass; mesenteric tumor*

Desmoid tumor is an uncommon benign neoplasm of mesenchymal origin¹, characterized by slow growth, local aggressiveness, absence of metastasis and tendency to local recurrence, even after surgical treatment¹⁻³. The etiology is still unknown².

In the general population, desmoid tumor is rare, representing only 0.03% of all neoplasms and less than 3% of soft tissue tumors, with a slight predominance among women and generally occurring between 15 and 60 years of age²⁻⁴. Risk factors for the development of this neoplasm include the presence of familial adenomatous polyposis (FAP), previous trauma and surgery, and pregnancy^{1,2,5}. The location is variable and includes extra- and intra-abdominal regions or the abdominal wall^{1,4}.

In most cases, desmoid tumor is manifested by the presence of a painless, slow-growing mass located at some extremity or at the abdominal wall⁵. The diagnosis is initially made through imaging examination, but confirmation is only given by histopathological analysis of a sample obtained from lesion biopsy².

The choice of treatment should be individualized according to the characteristics of the patient and the lesion and its location². Among available options, the main ones are surgical treatment, radiotherapy and chemotherapy, and the combination of these methods in some cases^{1,2}.

CASE PRESENTATION

A 37-year-old female patient reported to our department complaining of abdominal pain in the left flank with a palpable mass. She had a medical history of complicated Roux-en-Y gastric bypass, with surgical reintervention.

The computed tomography (CT), CT angiography and magnetic resonance imaging (MRI) revealed a solid, heterogeneous and expansive intra-abdominal lesion measuring 9.3 × 9.4 × 10.4 cm, compressing adjacent structures with no signs of invasion (Figure 1). Percutaneous biopsy identified a proliferation of spindle cells with mild atypia, fascicular pattern and low mitotic index, without evidence of necrosis. Immunohistochemistry revealed low-grade fibroblastic/myofibroblastic proliferation. Tumor resection was performed by laparotomy. An ileum segment of approximately 40 cm was resected because of tumoral involvement with the ileocolic vessels (Figure 2).

A surgical specimen was submitted to pathological and immunohistochemical analysis that confirmed a desmoid tumor.

Figure 1: Abdominal computed tomography revealing a solid, heterogeneous and expansive intra-abdominal lesion measuring 9.3 × 9.4 × 10.4 cm.

Figure 2: Resected tumor mass with distal ileal segment and right colon with partial mesenteric resection

DISCUSSION

Desmoid tumor is a rare locally invasive neoplasm, with an incidence of 2-4 cases per million person-years^{2,3}. To date, this tumor has no known metastatic

capacity, but its potential for local invasion and involvement and compression of adjacent structures, associated with high recurrence rates after complete resection, are important causes of tumor-related morbidity and mortality^{1,2}.

FAP is an important risk factor for the onset of desmoid tumor. Fallen et al. showed a FAP incidence of 15.6% in a group of 447 patients⁶. Other risk factors are pregnancy, trauma and previous surgeries^{2,7}. The patient reported here had a previous history of Roux-en-Y gastric bypass requiring surgical reintervention. There are few cases of desmoid tumor after bariatric surgery reported in the literature. However, no direct relation has been established between this procedure and the emergence of the tumor⁸⁻¹⁰.

Three reports of desmoid tumors after bariatric surgery were found⁸⁻¹⁰. In two of them, gastric bypass was the choice of bariatric technique. The time of diagnosis after surgery varied between 18 and 24 months. In one case, the tumor was located at the anastomosis from the previous surgery. All cases were treated with resection of the mass and additional procedures to treat adjacent organ invasion if necessary.

Mutations in the APC gene are related to PAF-associated disease, while mutations in the β -catenin gene are associated with sporadic onset^{2,7}. Le Guellec et al. analyzed 254 cases of sporadic desmoid tumor, and mutation in the β -catenin gene CTNNB1 was found in 223 cases¹¹.

MRI is the first choice for extra-abdominal lesion evaluation because of its great accuracy in soft tissue analysis and ability to assess the involvement of adjacent tissues^{1,2,5}. In intra-abdominal lesions, however, the preference is for contrast-enhanced abdominal CT because of its ability to identify the lesion and to form less artifacts secondary to peristaltic movements than MRI^{1,5}. In this case, both CT and MRI were performed.

In asymptomatic tumors that remain stable or regress in size, especially when located in the extra-

abdominal region, the first option has been to initiate treatment with the "wait and see" strategy, thus avoiding unnecessary risks that are offered by surgical or radiotherapy treatment^{1,2,4}. This correlation was demonstrated by Fiore et al. in a study of 142 patients with desmoid tumor – 83 were treated with "wait and see" and 59 received drug treatment, showing no statistical differences regarding progression-free survival between the two methods in 5 years of follow-up¹².

In cases such as the patient in question, in which the tumor produces symptoms and involves other abdominal structures or has risks of complications, more aggressive treatment should be performed^{1,2}. The most common therapeutic options are surgery, radiotherapy, chemotherapy and hormone therapy, which may be combined in some cases, such as adjuvant radiotherapy^{2,4,5}. In our case, the therapeutic option was surgery because of the reported pain and intimate involvement of the lesion with vascular structures, such as the mesenteric vessels and vena cava, and the uncinate process of the pancreas.

Surgical treatment has been the first option when there are clinical and anatomical conditions to perform it, as it allows total or partial removal of the lesion, control of symptoms and prevention of complications^{2,13}.

CONCLUSION

Desmoid tumor diagnosis should be considered in patients with a painless and slow-growing abdominal mass. In the suspicion of this condition, imaging examination should be made, and diagnostic confirmation is obtained through histopathological analysis of the lesion sample. Surgical treatment must be done with negative margins to prevent a recurrence.

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