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Case Report

Giant Retrovesical Solitary Fibrous Tumor

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Abstract

Introduction: Solitary fibrous tumor (SFT) is a rare mesenchymal tumor with an incidence of 2.8 per million inhabitants [2]. It was initially reported for its pleural location, which is the most frequent [3]. Abdominal, pelvic, and retroperitoneal tumors were also described, but retrovesical location is extremely rare, with only isolated cases reported.

Case Presentation: We report a case of a 23-year-old patient with retrovesical SFT with surgical attempt at another institution with favorable evolution after a complete oncological resection in our service. A review of diagnostic methods and differential diagnoses related to this pathology is made.

Discussion: SFTs are rare entities with a challenging manage. Most of them are benign, but they can become malignant with tendency to local recurrence and metastasize. Most patients are asymptomatic, but large tumors can cause compression symptoms of adjacent structures. By immunohistochemistry, they are reactive to CD34 and CD99. SFTs can also be positive for EMA, BCL2 and SMA.

Conclusion: Although the pleural location is the most frequent, it must be taken into account as a differential diagnosis of large pelvic masses of mesenchymal origin. Complete resection in a single block of these lesions is the accepted treatment.

Keywords: *Solitary Fibrous Tumor; Pelvic Mesenchymal Tumor*

Introduction

SFTs are rare lesions characterized by their fibrous and hypervascular structure. Recent advances in electron microscopy and immunohistochemistry demonstrated its mesenchymal rather than epithelial origin. While most SFT develop in pleura, there are up to 30% of cases whose presentation is the peritoneal, retroperitoneal cavity and pelvis. However, retrovesical location is extremely rare [1,6].

Case Presentation

We present a case of a 23-year-old male patient who began with pain and heaviness in the hypogastric region of one month of evolution. He was evaluated by an urologist who performed ultrasound and computed tomography (CT), interpreting studies as suspicious for an urachus tumor. The urologist decided an extraperitoneal approach surgery. The surgery was discontinued during the operative act when urachus tumor was ruled out and due to profuse bleeding. During hospitalization, a new contrasted CT was performed where is shown a large heterogeneous and cystic lesion (Figure 1).

The patient was referred to our service where the case is presented in a tumor committee and a surgical treatment is decided. Although it is routine to place ureteral catheters in this type of surgery, in this case it could not be performed due to extrinsic compression and an altered anatomy. During the surgical exploration,

Figure 1: CT a) Solid mass with cystic areas that occupies all the entire minor pelvis in front of the rectum. It is observed how the tumor displaces the rectum laterally and the bladder foward.

a large retrovesical tumor was found with firm adhesions to the back of the pubis, bladder, and attached to the pampiniform-penile plexus and prostate without compromising it. A complete monoblock resection is achieved. Intraoperative bleeding was important, requiring intraoperative transfusion with 3 red blood cells units and two additional ones in the postoperative period. Patient with a very good evolution and discharge on the 5th day with a urinary catheter which is removed after 10 days.

The pathological study reveals an encapsulated tumor of 15x10 x6 cm, weighing 412 grams. When cut, it is solid, heterogeneous, with homogeneous yellowish-pink solid areas and cavities of 0.2 and 3 cm in diameter (Figure 2a), some with hematic content inside.

Microscopically, it presents spindle cells with hypo and hypercellular areas rich in collagen. There was no sign of atypia, pleomorphism, or necrosis. Immunohistochemistry revealed positivity for Vimentina and CD34; and negativity for Muscle Smooth Actin, Desmina, S100 and CD117 (Figure 2b-2d).

The tumor was diagnosed as a benign solitary fibrous tumor.

Discussion

SFTs are more frequent in the 5th decade of life (between 20 - 70 years) without predilection of sex. Most patients are asymptomatic, but large tumors can cause compression symptoms of adjacent structures. Some patients may present in up to 5% of cases a syndrome called Doege-Potter characterized by refractory hypoglycemia [1,3].

Figure 2: Pathology of the tumor. A) Macroscopy: solid tumor with cystic areas; B-C) H-E Microscopy: with magnification of 10 X and 20 X respectively; D) Positivity for CD 34.

Contrasted tomography is important for the preoperative evaluation of these patients. They usually show a well-circumscribed image, as a heterogeneous soft tissue tumor between areas of lower and higher density due to the myxoid degeneration, hemorrhage and necrosis as can be evidenced in this case (Figure 1 and 2). Calcification foci are usually present in large tumors [3].

Nuclear magnetic resonance imaging usually shows images of intermediate intensity on T1 and on T2 mixed signals of high and low intensity with multiple gaps that represent the prominent vascular channels that these neoplasia usually have. In T2, low intensity signals are suggestive of low cellular content and abundant collagen areas, while the most intense signals may suggest edema, myxoid degeneration, hemorrhage, or necrosis. Intense vascular enhancement indicates the hypervascular nature of the mass. Large nutritional collateral vessels can be seen in up to 35% of lesions, but this is not pathognomonic as other large tumors can also present this characteristic. The presence by images of unclear margins, necrosis or hemorrhage is usually suggestive of locally aggressive or malignant tumors. This patient did not undergo MRI.

Most of the SFTs are benign, but they can become malignant with tendency to local recurrence and metastasize in approximately 10 - 15% of cases [3]. Malignant criteria for SFTs include large tumor

size (> 10 cm), hypercellularity, nuclear atypia, tumor necrosis, more than four mitoses per 10 high power fields and infiltrative margins. Strong expression of CD34 immunohistochemistry and a high Ki-67 proliferation index indicate a worse prognosis and evolution of these patients.

The pathological study of these tumors shows an architecture characterized by alternation between areas of hypo and hypercellularity with hyalinized or keloid collagen bands with hemangiopericytoma-like vessels. Myxoid changes, areas of fibrosis and interstitial mast cells can be observed. Some tumors may have mature adipocytes or multinucleated stromal cells simulating the hemagiopericytoma lipomatous or giant cell angiomyolipoma. Malignant TFS are usually hypercellular with marked atypia, necrosis, numerous mitoses, and compromised margins with infiltration. By immunohistochemistry they are reactive to CD34 in 90 - 95% of cases, and 70% can also be positive to CD99. Positive for EMA, BCL2 and SMA is found in 35% of these tumors [1-3,7].

The differential diagnosis of these tumors is with other mesenchymal soft tissue lesions such as sarcomas, GIST, angiomyxoma or desmoid tumors. The thick needle biopsy (tru-cut) could be useful for the preoperative diagnosis, there being bibliography that supports it, with no evidence of effects on local recurrence or survival [4-6].

Complete resection in a single block of these lesions is the only accepted treatment[3], however surgery can be difficult due to the firm adhesions to adjacent tissues, and the great vascularization that make them susceptible to bleeding during their excision.

Conclusion

In conclusion, we reported an unusual location of a SFT, retrovesical. Histopathology and immunohistochemical staining are necessary to arrive to the diagnosis, which can be made with thick needle biopsy (tru-cut) safely, with no evidence of effects on local recurrence or survival. Complete resection in a single block of these lesions is the accepted treatment. Since the potential for malignant transformation exists, a long-term follow-up is necessary.

Conflicts of Interest

We have no conflict of interest.

Funding

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Ethical Approval

Ethically approved.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Bibliography

1. Zi'ang., *et al*. "Giant solitary fibrous tumor of vagina: A case report and literature review". *Zhong Nan Da Xue Xue Bao Yi Xue Ban* 43.7 (2018).

2. Sijing Chen., *et al*. "A broad ligament solitary fibrous tumor with Doege – Potter syndrome". *Medicine* 97 (2018): 39.

3. Morikawa Shinsuke Takenaga., *et al*. "A rare solitary fibrous tumor in the ischiorectal fossa: a case report". *Surgical Case Reports* 4 (2018): 126.

4. Scarsbrook AF., *et al*. "Recurrent solitary fibrous tumor of the pleura due to tumor seeding following ultrasound-guided transthoracic biopsy". *Clinical Radiology* 60 (2005): 130-132.

5. Berger-Richardson D and Swallow CJ. "Needle tract seeding after percutaneous biopsy of sarcoma: risk / benefit considerations". *Cancer* 123.4 (2017): 560-567.

6. Buchs NC., *et al*. "Management of tumors of the ischiorectal fossa: the role of percutaneous biopsy". *Diseases of the Colon and Rectum* 58.10 (2015): 938-942.

7. Hau XN., *et al*. "Solitary fibrous tumor behind the pubic bone: a rare case report". *Urology Case Reports* 30 (2020): 1011247.