

SOLITARY FIBROUS TUMOR IN BLADDER WALL

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ABSTRACT

The solitary fibrous tumor is a rare mesenchymal tumor, occurring preferentially in pleura, which has recently been described in extrathoracic sites. There are 6 reports on primary solitary fibrous tumor of bladder. They affect preferably men with mean age around 57 years, are usually asymptomatic and, despite eventually presenting morphologic features of malignancy, tumor resection is considered curative.

We report the seventh case of solitary fibrous tumor in bladder wall, discussing differential diagnoses, and call the attention to this rarely occurring entity, which has benign behavior and should be managed conservatively.

Key words: bladder; neoplasms, fibrous tissue; surgery
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INTRODUCTION

Solitary fibrous tumor is a rare mesenchymal neoplasia, primarily described in visceral pleura, usually presenting benign behavior (1). Differently from previous beliefs, they do not derive from mesothelium, but rather from dendritic interstitial cells, which express CD34 and have generalized distribution in tissues, a feature that helps to recognize it in other organs (2). The identification of these extrathoracic tumors is important, since recent reports of aggressive lesions have prompted a discussion about their behavior, which was previously considered invariably benign (3).

Cases of solitary fibrous tumor of meningeal origin, in cerebral ventricle, orbit, nasal cavity and paranasal sinuses, retroperitoneum, thyroid, major salivary glands, breast, liver, mediastinum and gas-

trointestinal tract have been published (4). The urogenital tract appears in isolated reports, comprising kidney, spermatic cord, seminal vesicle and prostate. Only 6 cases of solitary fibrous tumor originated in bladder wall have been published in the literature. We present one case of primary solitary fibrous tumor in lateral bladder wall and review other described cases affecting the same region.

CASE DESCRIPTION

Male, 60-year old patient with PSA of 4 ng/mL, with normal digital rectal examination, was diagnosed with Gleason 6 (3 + 3) prostate adenocarcinoma involving one of the 12 biopsy fragments. He underwent preoperative exams including magnetic resonance imaging, which identified a tumoral mass close to the left lateral bladder wall, measuring 3.0

cm, homogeneous, well delimited, hyperintense in T2 weighted sequences, showing intense enhancement following injection of contrast agent (Figure-1). This image was initially interpreted as metastatic adenocarcinoma in iliac lymph node. Due to favorable aspects of the tumor, normal digital rectal examination, low PSA levels, low Gleason score and small tumor volume on biopsy, this possibility was discarded and the patient underwent radical prostatectomy.

During the surgical act, pelvic examination showed a tumoral mass located in left lateral bladder wall, exophytic towards the external surface, completely separated from ileum, colon and peritoneum. The mass was easily resected, and showed to derive from the external layers of the detrusor muscle.

Eleven months after surgery, patient is free from disease.

PATHOLOGY

Macroscopic examination showed a round tumoral mass with 3.2 cm in diameter, completely involved by a thin smooth and reddish capsule, except in the surface that contacts the bladder wall, where fragments of the muscularis propria layer could be viewed. The cut surface revealed a pale, fasciculate, homogeneous tumor, with elastic consistency, without necrosis or hemorrhage (Figure-2).

Histologically, the tumor was composed by short spindle cells with ovoid nucleus, pale cytoplasm,

arranged in interlaced bundles with rare foci of stromal hyalinization, with a mitotic activity of 3/10 HPF and absence of necrosis (Figure-3). The external portion of the detrusor muscle was identified in continuity to the tumor.

The immunohistochemical analysis showed strong positivity of tumor cells to CD34 (BIRMA-K3, Dako, 1:100) (Figure-4) and Bcl2 (Dako, 1:200). The lesion was negative for smooth muscle actin (HHF-35, Dako, 1:400) protein S100 (Dako, 1:300), and CD117 (c-Kit, polyclonal, Dako, 1:400). With this result, the final diagnosis was primary solitary fibrous tumor in bladder wall.

COMMENTS

This is the seventh case of solitary fibrous tumor originated in bladder wall (5-8). It is a benign neoplasia, whose behavior depends on its size and location. It affects preferentially men, with mean age around 57 years (42 - 67 years). It is usually an incidental finding, with vague symptoms being described, such as heaviness sensation, prolapse, increase in urinary frequency and difficulty to void.

Only one patient presented hematuria. These tumors vary in location and have a mean size of 8.0 cm (3.2 - 17 cm). This diagnosis is difficult to make, and errors are common even in its preferential site, the thorax. Those derived from the lower urinary tract, invariably receive other denominations, including sarcomas. This mistake is due to the small number of occurrences for this lesion in the urogenital tract, and its histological presentation, which is similar to several other entities, with absolutely distinct behavior. Hemangiopericytoma, malignant fibrohistiocytoma, leiomyoma, leiomyosarcoma, schwannoma, carcinosarcoma and gastrointestinal stromal tumor (GIST) are some examples.

The performance of an immunohistochemical panel is mandatory in such conditions. The solitary fibrous tumor invariably expresses CD34, with recent descriptions of positivity to Bcl2, type II insulin-like growth factor and CD99 (4,7). The main differential diagnosis in the presence of such panel would be hemangiopericytoma. It is an equally rare tumor, with 5 described cases, 4 of them occurring in women,

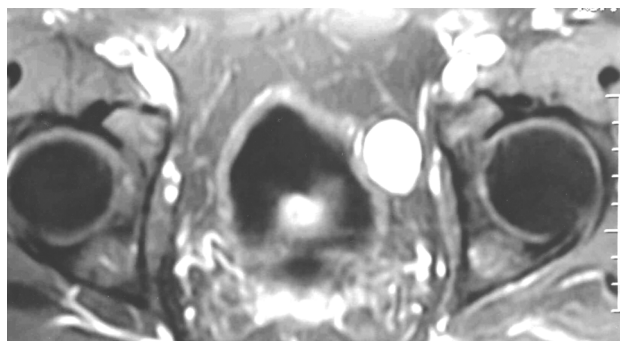


Figure 1 – Magnetic resonance imaging scan showing exophytic tumor in left lateral bladder wall, hyperintense on T2.

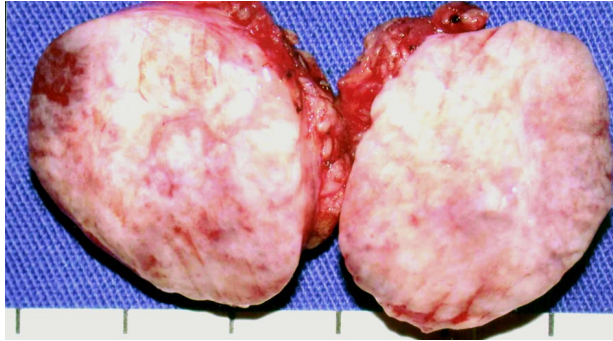


Figure 2 – Round, well-delimited, pale, fasciculate tumor, covered by a smooth reddish capsule.

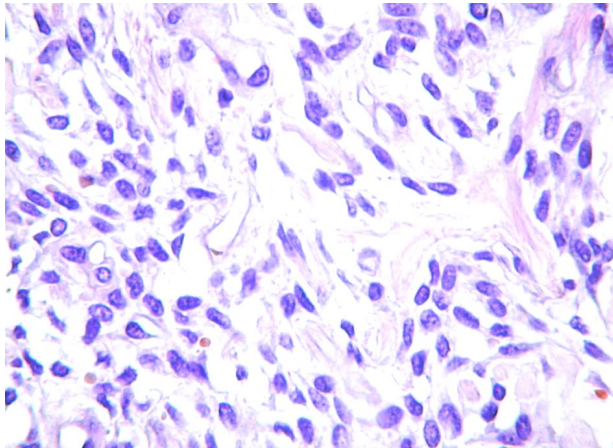


Figure 3 – Photomicrography showing neoplasia constituted by proliferation of short spindle cells, arranged in bundles, with ovoid nuclei, without hyperchromasia. Cytoplasm is delicate, pink, poorly delimited. There is no necrosis or hemorrhage (HE, X400)

and presents richer vascularization and tend to exhibit a less exuberant reactivity to CD34 (4).

Approximately 10% of extrathoracic solitary fibrous tumors are considered malignant, though they are less frequent at these sites than in thorax. In bladder, despite some cases having some malignant features, such as hypercellularity, nuclear pleomorphism and mitotic activity higher than 4/10 HPF, the complete tumor resection has shown to be curative.

In the case describe above, the tumor was removed with safety margin, and within 11 months of follow-up, patient has been free from disease. Thus, we call the attention of urologists and pathologists so

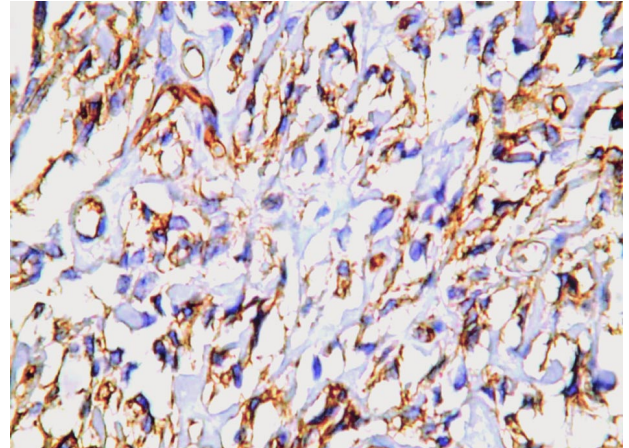


Figure 4 – Photomicrography of immunohistochemical exam, showing strong positivity of tumor cells to antibody anti-CD34 (X400).

that they consider the diagnosis of solitary fibrous tumor in the presence of spindle-cell bladder neoplasias, which can avoid unnecessary radical surgeries.

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