A case report of inflammatory myofibroblastic tumor of urinary bladder

Mohand D. Yaghi
Department of Urology, Chomutov General Hospital, Chomutov, Czech Republic

INTRODUCTION

Inflammatory myofibroblastic tumors (IMFTs) is a rare soft tissue tumor, which may occur in soft tissue and viscera such as lungs, retroperitoneum, and pelvis. It has a low malignant tendency; mortality usually occur due to the tumor extension into adjacent organs. This case report presents a rare incident of IMFT found in the urinary bladder.

CASE REPORT

A 71-year-old woman was admitted to our department for massive visible hematuria lasting for 2 h; she had urgency, frequency, suprapubic pain, and dysuria. She had cystitis 2 times during the last 3 months. We started coagulation therapy (Dicynon, Kanavit, Exacyl) without effect. Three days after the admission, her hemoglobin falls to 86 g/l. Cystoscopy showed a solid tumor on the posterior wall of the bladder sized 3 cm, it looked like infiltrating tumor growing from the adjacent organs. After performing transurethral resection (TUR) of the tumor, histological report indicated that the tumor contained malignant spindle cells, partially necrotic with myxoid changes, and urinary bladder urothelium was found without dysplastic changes, it was difficult to differentiate whether it is sarcoma or sarcomatoid carcinoma. Immunohistochemistry examination was ordered, which showed later that the tumor is inflammatory myofibroblastic. Two weeks later, intravenous urography showed irregular contour on the cranial part of the urinary bladder wall. On computer tomography, there was a finger-like mass on the left lateral wall of the urinary bladder, and the fundus invading the surroundings. Two months later, we performed follow-up cystoscopy; we found a tumor on the left lateral wall of the bladder, and TUR was performed. After 3 months, no pathological findings were seen.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Yaghi MD. A case report of inflammatory myofibroblastic tumor of urinary bladder. Urol Ann 2016;8:366-8.
**DISCUSSION**

IMFT is a rare benign and proliferative lesion of the submucosal stroma, TUR of this tumor appears to be curative.

The first IMFT was reported by Roth in 1980,[2] since then around 100 cases of IMFT were described in English literature, four cases of IMFT in the urinary bladder were reported,[3] most cases presented with gross hematuria. Histologically, the hallmark of the tumor is the presence of atypical spindle cell proliferations [Figures 1 and 2a and b].

The etiology of the tumor is not clear yet,[2] but there might be an association between the tumor and chronic cystitis or previous instrumentations (e.g., cystoscopy).[3]

Other terminology for this lesion includes atypical myofibroblastic tumor, plasma cell granuloma, nodular fasciitis of the bladder, inflammatory pseudotumor, and postoperative spindle cell tumor. This lesion may occur at any age but typically occurs in young adults, the size of the lesion is variable ranging from 2 to 6 cm. According to Ricchiutti et al., only one recurrence case has been reported.

This lesion grows slowly and does not metastasize. The best treatment for this lesion is TUR and follow-up cystoscopy.[4] Previously, it was thought that this tumor is malignant; hence, unnecessary radical operations such as cystectomy were performed. Histology remains the milestone of the diagnosis; other examinations such as immunohistochemistry and electron microscopic examination can be used too. Here, we can see the importance of a correct, precise, and efficient diagnosis made by the surgical pathologist. In 10-15% of solid tumors, histochemistry, immunohistochemistry, and electron microscopy are crucial tools for making a diagnosis. The pathological report is another essential tool to enhance patients care. The report should consist of all important, available information for the pathologist, and the used technologies/tests to make the diagnosis.[5] Moreover, it was shown that using synoptic checklist yield better results and superior communication between the pathologist and the clinician than the free-text reports.[6-9]

Leiomyosarcoma and rhabdomyosarcoma are the most problematic tumors in the differential diagnosis [Figure 2e and d]. Some markers can be used to differentiate between these tumors and IMFT, for example, antibodies directed against myogenin and MyoD1 (which are nuclear phosphoproteins act as transcription factors inducing gene expression in muscles), can be used as specific markers for rhabdomyosarcoma, because these antibodies do not react with cells of IMFTs.[10] In addition, it is believed that antibodies against h-caldesmon can be used as sensitive markers for leiomyosarcomas, leiomyomas, and glomus tumors.

Financial support and sponsorship Nil.

Conflicts of interest There are no conflicts of interest.

REFERENCES

1. Available from: http://www.atlasgeneticsoncology.org/Tumors/MyofibroID5073.html. [Last accessed on 2015 Sep].
2. Ricchiutti DJ, Ricchiutti VS, Ricchiutti RR, Qadri AM, Resnick MI. Fibrous inflammatory pseudotumor of the bladder. Rev Urol 2000;2:232-5.
3. Available from: http://www.pathologyoutlines.com/topic/bladderIMT.html. [Last accessed on 2015 Sep].

4. Iczkowski KA, Shanks JH, Gadaleanu V, Cheng L, Jones EC, Neumann R, et al. Inflammatory pseudotumor and sarcoma of urinary bladder: Differential diagnosis and outcome in thirty-eight spindle cell neoplasms. Mod Pathol 2001;14:1043-51.

5. Connolly JL, Schnitt SJ, Wang HH, Longtime JA, Dvorak A, Dvorak HF. Role of the surgical pathologist in the diagnosis and management of the cancer patient. In: Kufe DW, Pollock RE, Weichselbaum RR, et al. editors. Holland-Frei Cancer Medicine. 6th ed. Hamilton, ON: BC Decker; 2003.

6. Branston LK, Greening S, Newcombe RG, Daoud R, Abraham JM, Wood F, et al. The implementation of guidelines and computerised forms improves the completeness of cancer pathology reporting. The CROPS project: A randomised controlled trial in pathology. Eur J Cancer 2002;38:764-72.

7. Idowu MO, Bekeris LG, Raab S, Ruby SG, Nakhleh RE. Adequacy of surgical pathology reporting of cancer: A College of American Pathologists Q-Probes study of 86 institutions. Arch Pathol Lab Med 2010;134:969-74.

8. Zarbo RJ. Interinstitutional assessment of colorectal carcinoma surgical pathology report adequacy. A College of American Pathologists Q-Probes study of practice patterns from 532 laboratories and 15,940 reports. Arch Pathol Lab Med 1992;116:1113-9.

9. Gephardt GN, Baker PB. Lung carcinoma surgical pathology report adequacy: A College of American Pathologists Q-Probes study of over 8300 cases from 464 institutions. Arch Pathol Lab Med 1996;120:922-7.

10. Watanabe K, Baba K, Saito A, Hoshi N, Suzuki T. Pseudosarcomatous myofibroblastic tumor and myosarcoma of the urogenital tract. Arch Pathol Lab Med 2001;125:1070-3.