Oncology

A rare case of solitary fibrous tumor arising from prostate located inside of bladder

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ABSTRACT

Solitary fibrous tumors (SFTs) often occur in the pleura and rarely recognized in prostate, which mainly diagnosed by immunohistochemistry. We present a solitary fibrous tumor (SFT) arising from prostate located inside of bladder which was initially misdiagnosed as prostate sarcomatoid carcinomas to help other doctors decrease this odds.

Introduction

Solitary Fibrous tumor (SFT) is a kind of tumor which was first reported in pleura. And it has been reported in some other organs more frequently in recent years, namely extrapleural SFTs or extrathoracic SFTs. They account for almost 70% of all SFTs' Regarding its low risk of malignant potential, we usually take a complete surgical resection if possible and do some regular examination in follow-up. We presented a rare case which originated from prostate, located inside of bladder, to make a case report. This report was approved by the Ethics Committee of the Chinese PLA General Hospital and provided written informed consent. The procedure was performed by a doctor (H.L.) with advanced robotic skills.

Case presentation

A 43-year-old man had suffered from gross hematuria for 7 days and then admitted to our hospital in April 2018. He had no accompanying symptom. His past, family, personal and social history was unremarkable. He had taken rifampicin for half a year in 2000 because of tuberculous pleuritis and then been healed.

Ultrasonography (US) in other hospital revealed benign prostatic hyperplasia. But magnetic resonance imaging (MRI) in our hospital were performed and demonstrated a low malignant potential bladder tumor. So experts of radiology held different ideas about the origin of tumor. And the patient's physical examination findings were within normal limits. His prostate-specific antigen level was within the normal range at 0.686 ng/mL. In order to diagnose, the urologists in our department put forward three questions: 1. Is the tumor originated from bladder or prostate? 2. Is the tumor benign or malignant? 3. If the tumor originated from prostate, we thought there is more possibility to be prostatic sarcoma, how could we make it sure? So firstly we advised the patient to take a cystoscopy, we saw a huge mass (8 × 4 × 3 cm) in the bladder and bladder mucosa was complete. Both sides ureteral orifices couldn't be see clearly because of anatomic variation, so we couldn't put Double J stent into them. But we make sure that the tumor is originated from prostate and then extruded into bladder. So the next step we suggested the patient taking the transperineal prostatic biopsy, revealing solitary fibrous tumor/hemangiopericytoma. It's a good news for patient and we almost misdiagnose it. His chest X-ray, renal function tests and liver function tests were within normal limits.

Considering the patient had surgical indication without any contraindication, we would plan to take robotic laparoscopic resection of pelvic tumor through bladder (Fig. 1). During the operation, we give the patient furosemide to recognized ureteral orifices in order to protect them. The patient made an uneventful recovery and was discharged in...
four days after surgery. The pathology and immunohistochemistry showed that: Spindle cell tumor intermixed with regional necrosis. Some cells had atypia. Mitosis is 4/10 HPF. The tumor is 8 × 4.5 × 3.5 cm and positive for Bcl-2, CD34, STAT6, Vimentin, CD99, but negative for S-100, EMA, CK5, CK, Calretinin, SMA, Desmin, besides, Ki-67 is 15%. All the results confirmed solitary fibrous tumor/hemangiopericytoma (Fig. 2). He is currently under regular follow up. And the MRI images of pre-operation and 3-month post-operation can be seen in Fig. 3.

Conclusion

SFTs are considered as indolent tumors which has low risk of metastasizing especially with negative surgical margin. The rate of metastasizing is about 8%, which often occurs in lung and pleura. Regular surveillance should be put on a high level because even benign SFTs can be metastatic, so we can see the correlation between histologic finding and clinical outcome is not exact. But a negative margin is the most important predictor factor. There is no standard model of follow-up because of low morbidity. Some authors recommend regular chest radiographs at half a year interval as an inexpensive option, with follow-up CT scans for lung metastasis. We suggest to follow up these patients with 3-month clinical examination and ultrasound. And take CT imaging or MRI at a year interval.
Fig. 3. a–b: MRI: A huge T1 and T2 equisignal mass located in the back wall of bladder. The size is 49 × 50 × 76 mm, whose signal is uneven, accompany with a slight long and short T2 signal. A short T2 signal capsul and separation can also be seen. The tumor oppressed prostate and seminal vesicle glands on both sides. Unevenly obvious enhancement in arterial phase and continue to strengthen. An 8mm long T1 and short T2 signal nodule can be seen in the bladder. c–d: The patient went well on different signals and different sides.

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