



A rare case of seminoma metastasis to the bladder

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Abstract

Introduction. The great majority of testis neoplasms are germ cell tumours. The most common site of metastasis is the retroperitoneal region. Metastasis to the bladder is very rare.

Clinical case. A 33-year-old male smoker had right radical orchiectomy two years ago for seminoma. The investigations then showed right retroperitoneal and iliac enlarged nodes and right renal hydronephrosis. Nephrostomy tube was inserted, chemotherapy was given with good response. Two years later the patient presented with right flank pain, hematuria and lower urinary tract symptoms. MRI showed a big bladder mass. Cystoscopy and transurethral resection were done and showed metastatic seminoma.

Discussion. Testicular tumours are the most common male malignant neoplasms between the ages of 15 and 35 years. The great majority of testicular neoplasms are germ cell tumours and seminomas are the most common type of this group. Urinary system metastasis is quite rare.

Conclusion. Rare and late metastases to the bladder should always be considered, and careful medical history should be taken.

Keywords: germ cell tumours; seminoma; bladder metastases

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Редкий случай метастазирования семиномы в мочевого пузырь

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Аннотация

Введение. Подавляющее большинство опухолей тестикул являются опухолями зародышевых клеток (germ cells). Наиболее распространённой областью метастазирования данного типа опухолей является забрюшинное пространство. Метастазы в мочевой пузырь встречаются очень редко.

Презентация наблюдения. Мужчина 33 лет, курящий, два года назад перенёс правостороннюю радикальную орхиэктомию по поводу семиномы. В периоперационном периоде обследования выявлено увеличение правых забрюшинных и подвздошных лимфоузлов, а также правосторонний почечный гидронефроз. Была установлена нефростома, проведена химиотерапия, которая показала хороший ответ. Два года спустя пациент поступил с жалобами на боли в правом боку, гематурию и симптомы со стороны нижних мочевыводящих путей. По данным магнитно-резонансной томографии определено большое образование мочевого пузыря. После проведения цистоскопии и трансуретральной резекции было выявлено, что это метастатическая семинома.

Обсуждение. Опухоли яичек являются наиболее распространённой злокачественной опухолью у мужчин в возрасте от 15 до 35 лет. Подавляющее большинство опухолей яичек — это опухоли зародышевых клеток (germ cells), а семиномы являются наиболее распространённым типом в данной группе. Метастазы в мочевую систему встречаются довольно редко.

Заключение. Всегда следует учитывать редкие и поздние метастазы в мочевой пузырь, а также тщательно собирать анамнез.

Ключевые слова: опухоли зародышевых клеток; семинома; метастазы в мочевой пузырь

Финансирование. Это исследование не получало никаких конкретных грантов от финансирующих агентств в государственном, коммерческом или некоммерческом секторах.

Раскрытие интересов. Автор заявляет об отсутствии конфликта интересов. Регистрации научного исследования не проведено.

Этическое заявление. Письменное информированное согласие было получено от пациента на публикацию этого отчёта о случае и сопровождающих изображений в соответствии с местными требованиями этического одобрения. Других требований не установлено. Автор является гарантом этой рукописи.

Информированное согласие. Письменное информированное согласие было получено от пациента на публикацию этого отчёта о случае и сопровождающих изображений. Копия письменного согласия доступна для просмотра главным редактором этого журнала по запросу.

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Introduction

Testicular tumours are rare, but still the most common malignant tumour in males between 15 and 35 years [1]. The great majority of testis neoplasms are germ cell tumours and seminomas make up about 40% of this group [2]. The most common site of metastasis is the retroperitoneal region, followed by the mediastinum, the lungs, the brain and solid organs, and the bones [3]. Approximately 5% of germ cell tumours originate at extragonadal sites, most commonly mediastinum and retroperitoneum. Testicular tumour metastasis to the bladder is very rare [4].

Case presentation

A 33-year-old male smoker had right radical orchiectomy 2 years ago for seminoma. The investigations then showed right retroperitoneal and iliac enlarged nodes and right renal hydronephrosis. Double-J ureteral stenting failed so nephrostomy tube was inserted, chemotherapy was given with good response. Two years later the patient presented with right flank pain, hematuria and lower urinary tract symptoms. Tumour markers were normal, MRI showed a big

bladder mass. Cystoscopy and transurethral resection were done and showed metastatic seminoma. The diagnosis of seminoma was supported by strong immunostaining of the tumour cells for C-Kit and placental alkaline phosphatase. Salvage chemotherapy (four cycles of cisplatin and ifosfamide + etoposide) was given and cystoscopic follow-up showed normal bladder.

Discussion

More than 95% of testicular neoplasms are germ cell tumours, which contain seminoma, non-seminoma and mixed tumours. Germ cell tumours (GCTs) are a relatively rare malignancy, accounting for 1% to 2% of cancers among adult males [1].

About 95% of germ cell tumours arise in the testis, approximately 5% of postpubertal GCTs are extragonadal in origin, and most develop in midline anatomic locations (retroperitoneum and mediastinum are most common) [2]. With the development of cisplatin-based chemotherapy and the integration of surgery, GCTs have become a model of a curable neoplasm and serve as a paradigm for the multidisciplinary

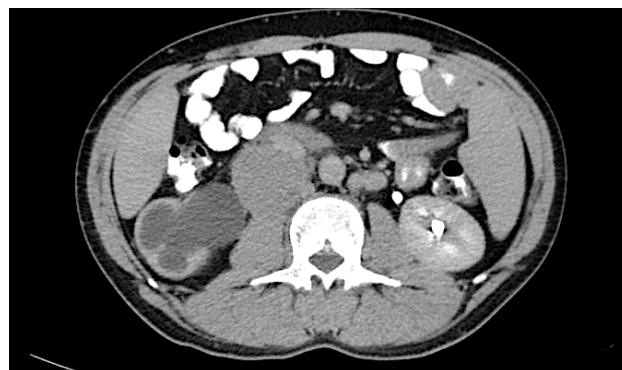


Figure 1. CT axial scans showing right retroperitoneal and iliac enlarged nodes and right renal hydronephrosis [the first presentation]

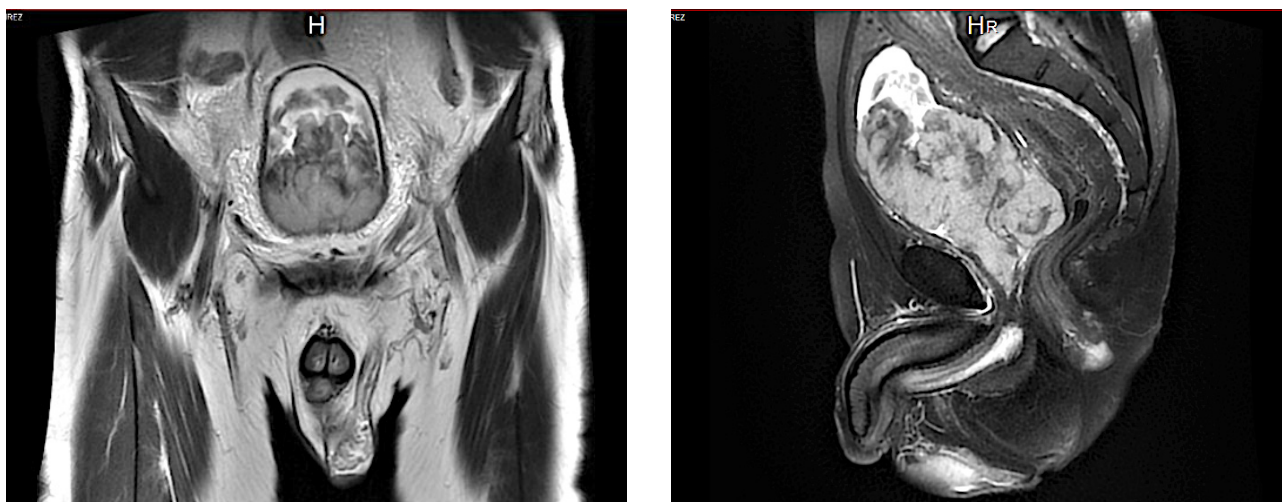


Figure 2. MRI scans (left — sagittal, right — coronal) showing the bladder mass [the second presentation]

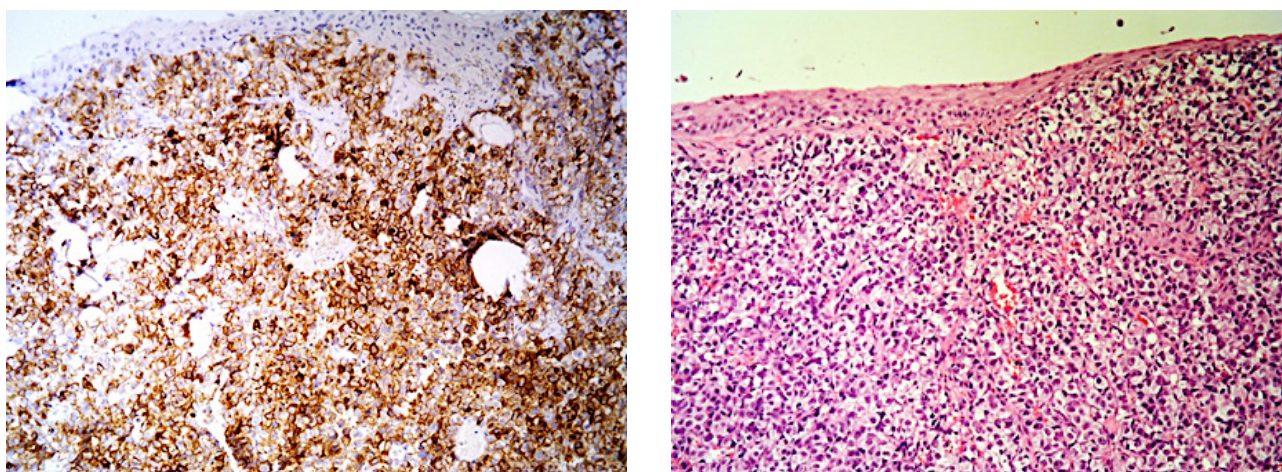


Figure 3. Bladder biopsies showing seminoma (left — H&E staining, right — IHC staining)

treatment of cancer [5]. Currently, the long-term survival for men with metastatic GCT is 80% to 90% [6].

The most common presentation of testis cancer is a painless testis mass.

Regional or distant metastasis at diagnosis is present in approximately two-thirds of NSGCTs and 15% of pure seminomas, and symptoms related to metastatic disease are the presenting complaint in 10% to 20% of patients [7]. Bulky retroperitoneal metastasis may cause a palpable mass, abdominal or flank pain, or lower extremity swelling. Testis cancer is associated with serum tumour markers (LDH, AFP, and beta-HCG) that are essential in its diagnosis and management. Seminomas do not produce AFP. Serum tumour marker levels should be obtained at diagnosis, after orchiectomy, to monitor for response to chemotherapy.

Similar reported cases include: A.R. Türkoğlu et al. (2015) reported a case of rare late metastasis of testicular seminoma to the bladder [8], Y.S. Gürbüz et al. (2001) reported a case with simultaneous bladder carcinosarcoma and testicular seminoma [9]. A. Alsolamı et al. (2014) reported a case with concurrent bladder and testicular seminoma [10]; Another patient was diagnosed with extragonadal germ cell tumour with lymph node biopsy after retroperitoneal and cervical lymphadenopathy was detected, Chemotherapy was administered and the beta-HCG level increased during follow-up, The patient developed hematuria with bladder and right ureter metastasis followed by liver and mesenteric lymph node metastasis leading to his death [11]. Another case is present where orchiectomy was performed for testis seminoma and

biopsy of the paraaortic and inguinal lymph nodes during a kidney transplant later in this kidney recipient revealed seminoma again. The patient underwent radiotherapy and received immunosuppressives, but a bladder metastatic seminoma was found three years later [12]. Another article reported a patient who underwent bilateral orchiectomy, retroperitoneal lymph node dissection, and chemotherapy for seminoma; the patient then developed a retrovesical 8 × 6 × 5 cm primary seminoma of the prostate 16 years later [13]. J.D. Khandekar et al. (1993) reported

a case involving the prostate and bladder neck [14]. T. Hashimoto et al. (2009) reported a primary seminoma involving the prostate [15]. Renal, adrenal gland, psoas muscle, gastric, seminal vesicle, bladder, prostate and pericardial involvement are very rare (< 1%) [4]. Most metastases develop within the first two years [7].

Conclusion

Rare and late metastases to the bladder should always be considered, and careful medical history should be taken

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