Case Report

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Isolated Testicular Metastases from Renal Cell Carcinoma

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Key Words

Testis
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Abstract

Testicular metastasis from renal cell carcinoma is very rare. Herein we report a case of **left-side** renal cell carcinoma initially diagnosed to be clinically stage II, which developed **left-side** testicular metastases 2 months following radical nephrectomy. High inguinal orchiectomy was carried out. The patient was asymptomatic 2 months later. Although renal vein involvement in renal cell carcinoma is common and its extension into inferior vena cava well documented, tumour invasion of spermatic veins is rare.

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Introduction

Metastasis to the testes is a rare condition [1–3]. Non-lymphomatous testicular metastases may occur as part of a widespread carcinomatosis or when a primary tumour elsewhere is known to be present in which case the diagnosis is easy. Rarely, the secondaries may be the only or the initial sign of a primary lesion elsewhere; these cases can prove difficult to diagnose histologically. The common primary sources, in decreasing order of frequency, include prostate, bronchus, bowel, pancreas, malignant melanoma of bladder, and carcinoma of bladder and kidney [4].

Testicular metastasis from renal cell carcinoma is very rare, it being just given passing reference in several standard books [4–6]. This rarity of renal cell carcinoma metastasising into the testis and also the fact that it may explain one of the modes of spread of renal cell carcinoma in its natural history of progression prompted us to report this case.

Case Report

A.S., a 67-year-old male patient, presented with painful enlargement of the left testis of 6 days' duration. Two months earlier he had undergone left radical nephrectomy for stage II renal cell carcinoma (fig. 1). At that time, there was no evidence of lymph node or renal vein involvement. He had no varicocele. Since nephrectomy specimens revealed breach in Gerota's fascia at one place, he was given external radiation of 3,500 rad in 3 weeks to the renal fossa immediately following nephrectomy. On examination, the left testis was enlarged to twice the size of its counterpart, and was tender. The spermatic cord was indurated throughout its extent. No lump was felt in the abdomen. The nephrectomy scar had

healed well. The chest X-ray was normal. A course of antibiotics and anti-inflammatory agents did not improve his condition. Fine needle aspiration cytology from the left testis revealed metastatic deposits consistent with renal cell carcinoma (fig. 2).

A left high inguinal orchiectomy was performed. The entire testis and the cord up to the internal inguinal ring was replaced by tumour tissue. Histopathology revealed classical features of renal cell carcinoma replacing the normal testis. In view of distant metastases, the patient was started on injection Proluton weekly. Eight weeks later, he was asymptomatic, with no evidence of local or systemic recurrence.

Discussion

Approximately one third of patients with renal cell carcinoma have haematogenous metastases at the time of diagnosis [5]. The common sites for metastases in decreasing order of frequency include the lungs (50%), bones (30%; which are osteolytic), liver (30%), brain and thyroid (25%). Local invasion into adrenals, spleen, diaphragm is present in about 30–40% of cases [5]. Lymphatic extension to regional lymph nodes is yet another mode of spread.

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Fig. 1. CT scan showing a large tumour arising from posterior inferior aspect of left kidney with apparent localisation within Gero-ta's fascia.

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Fig. 2. Photomicrograph of the cytology smear showing large cells with vesicular nucleus and very prominent nucleolus and abundant vacuolated granular cytoplasm consistent with renal cell carcinoma. MGG. $\times 540$.

Infrequent sites of metastases from renal cell carcinoma include testes and vagina [7]. Renal cell carcinoma may involve the testis via the spermatic vessels [6]. Rarely, dropped metastases from a diffuse intra-abdominal malignancy can involve the cord and testes via a patent processus vaginalis. Retrograde extension through the vas deferens is yet another route. Vaginal metastasis from renal cell carcinoma is likely to result from retrograde extension from ovarian veins, pampiniform plexus and uterovaginal venous plexus [7].

Patients who develop metastases following radical nephrectomy for renal cell carcinoma may have survivals superior to those who present with metastases. This difference is more pronounced if the interval between nephrectomy and the appearance of metastases exceeds 2 years [8]. With late metastases, the 5-years survival rate of 45% is similar to that of patients with

non-metastatic carcinoma [9]. In the present case, the metastatic disease was noted 2 months after nephrectomy, and the patient was apparently well 2 months later. A long-term follow-up would be necessary to know the behaviour of the disease in cases of early metastases.

It is concluded that despite the venous link between the left testis and the left kidney, testicular metastasis from renal cell carcinoma is very infrequent. However, we feel that an early ligation of the gonadal veins at the time of radical nephrectomy before manipulation of the kidney may minimise or exclude a possible chance of retrograde dissemination of the disease to the testis.

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