Case Report

Isolated abdominal wall metastasis from renal cell carcinoma: Unusual presentation

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Abstract

Fifty-seven-year-old gentleman, who was a known victim of left-sided clear cell renal cell carcinoma (RCC), presented with isolated huge parietal swelling in left anterolateral aspect of abdomen. He had undergone open left radical nephrectomy 2 years back. Parietal swelling was widely excised and histopathology revealed clear cell RCC, nuclear Fuhrman grade 2.

Key Words: Parietal swelling, renal cell carcinoma, wide excision

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INTRODUCTION

Renal cell carcinomas (RCCs) have a propensity for widespread metastases and a wide range of survival rates.[1,2] They can spread into adjacent organs by direct extension and can invade local or distant sites by lymphatic, hematogeneous or lymphohematogeneous pathways.[3] The most common sites for metastases are the lungs, lymph nodes, bone and brain. Subcutaneous metastases are uncommon and typically herald coexistent disseminated disease and have a poor prognosis. Here we report a case of metastatic isolated huge parietal mass in the abdominal wall in a 57-year-old gentleman, 2-year post radical nephrectomy which is extremely rare. Further rarer is 2-year survival after successful surgical management of metastatic site with no recurrence anywhere.

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CASE REPORT

A 57-year-old gentleman presented with a huge parietal mass in the left flank. He was a known case of a clear cell RCC, nuclear Fuhrman grade 2 (T2N0M0, stage 11, ECOG PS: 0). He had received open radical nephrectomy via anterior subcostal approach, 2 years back. Parietal mass grew rapidly within 4 months. Physical examination revealed a bulging, irregular, fixed, non-tender mass in left anterolateral aspect of the upper abdomen.

His hemoglobin was 13.2 gm/dl and serum creatinine was 1.2 mg/dl. Rest of the hematological, biochemical investigations and chest X-ray were within normal limits. MRI of the whole abdomen revealed one large, irregular, heterogeneously altered signal intensity space-occupying lesion which was isointense to muscles on T1 and hyperintense on T2-weighted

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images, measuring 92 × 87 × 74 mm in left parietal layers of the abdomen [Figure 1]. Mass was present just deep to subcutaneous plane, involving deeper layers of fascia and muscle. There was stretching and infiltration of parietal musculature as well. There was no evidence of metastasis at any other site. Left renal bed was filled with bowel loops.

Wide excision of the subcutaneous abdominal mass and primary closure of the wound, reinforced with poly-propylene mesh was performed in concert with a plastic surgeon. The surgical specimen consisted of a tumor mass measuring 10 × 8 × 7 cm and histopathology showed a clear cell RCC with Fuhrman nuclear grading 2 [Figure 2]. Post-operatively, in concert with a radiation oncologist, he was advised Sunitinib 50 mg but the patient refused to take it because of non-affordability. At 2-year follow up, the patient is doing well with no recurrence clinically and radiologically.

DISCUSSION

RCCs are a heterogeneous group of tumors and one third of patients already had distant metastases at the time of diagnosis[1] and in one fourth, metastasis occurs after radical nephrectomy. The most frequent sites of metastasis include lung (50-75%), bone (30-40%), liver (30-40%), brain and thyroids (25%).[2]

Cutaneous metastasis is a relatively uncommon manifestation. It most often occurs late in the course of disease but also may be the presenting sign of underlying cancer. Cutaneous metastasis arising from visceral malignancies has no specific appearance. These lesions are often described as either cutaneous or subcutaneous nodules and as flesh-colored to pink or violaceous and often the patient is asymptomatic. However, many reports of non-nodular metastases exist. RCCs presenting as a cutaneous horn[3] or pyogenic granuloma-like lesions have been described in the literature.[4]

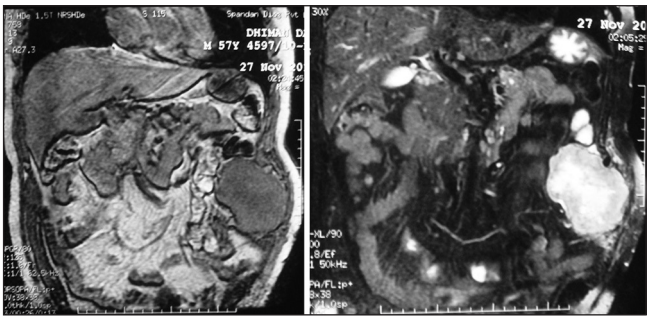

Figure 1: MRI-whole abdomen: Space occupying lesion in the left abdominal wall, iso-intense to muscles on TIWI, hyper-intense on T2W1

The abdominal skin appears to be the most common site for all genitourinary cutaneous metastases while the most common site of cutaneous metastasis from RCC are scalp and face followed by chest and abdomen.[5] The incidence of cutaneous metastases from the kidney has been reported as 3-6%.[5] There are four possible mechanisms of metastatic dissemination to the skin: Direct invasion from an underlying neoplasm; implantation from an operative scar; spreading through the lymphatics; or hematogeneously.[5] In our case, since mass position was near the old surgical scar of radical nephrectomy, so it may be the seeding of malignant cells in incision during first surgery.

Metastatic malignant cells may frequently reach the skeletal muscles because they have rich blood supply and large mass (approximately 50% of total body mass);. Skeletal muscle metastases are very rarely reported clinically in two series (1.35%, 1.8%).[6] However, growth of metastatic foci and establishment of metastases may be prevented in muscle by mechanical destruction of tumor cells by muscle movements, prevention of settlement of tumor cells by flow turbulence and variable blood flow (common metastatic sites such as liver, lung and bones have relatively constant blood flow), and inhibition of enzyme-dependent processes of invasion or tumor growth by lactic acid, diffusible protease, and different oxygen tension in the muscles.[7,8]

Subcutaneous abdominal wall metastases from RCC are uncommon and typically imply a very poor prognosis and short survival.[5] Additionally, skeletal muscle metastases occur as a late event in the progression of disease, and, therefore, only a fraction of patients with skeletal muscles metastases may survive long enough for metastatic mass to be detected.[9] Surgical resection alone does not seem to affect the clinical course significantly, cure is rarely possible, so it is our duty to make every effort to improve the quality of life for such patients.

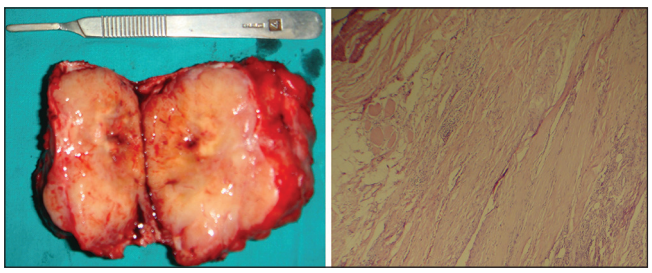

Figure 2: Bi-valved resected specimen of abdominal wall metastasis, scanner view showing malignant cells, fibrous tissue and abdominal wall muscle (H and E staining)

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