Case Report

Chronic shoulder pain – a rare presentation of renal cell carcinoma: a case report

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ABSTRACT

Renal cell carcinoma is a common malignancy and may present with metastatic disease. While metastasis to bones is common, it is uncommon to be the predominant presenting feature. Here, we present case history of a 40-year-old man suffering from chronic regional shoulder pain that poorly responded to medications and physiotherapy and later diagnosed as metastatic renal cell carcinoma. This case stresses that chronic monoarthritis or regional pain syndromes, without an obvious aetiology and poor response to symptomatic and general measures, should guide for an in-depth investigation to find the aetiology.

Key words: *Renal cell carcinoma, shoulder pain, metastasis*

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INTRODUCTION

Renal cell carcinomas (RCC) constitute 80-85% of primary renal neoplasm; clear cell type being the most common histological pattern.[1] It is an aggressive malignancy; approximately 15–30% of RCC patients have metastases at the initial diagnosis.[2] Rarely, bony metastasis can be a presenting feature of RCC (0.4% cases).[3] Here we report a case of RCC presenting with bony metastasis without any previous renal manifestation.

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CASE REPORT

A 40-year-old cultivator, presented with pain in right shoulder for 8 months and swelling of same joint for 3 months. He also experienced recurrent episodes of low to high grade intermittent fever, not associated with chills and rigor for 2 months. Initially, he was treated as a case of adhesive capsulitis with analgesics and physiotherapy. But his pain was progressively increasing, and he was further treated with 3 courses of antibiotics, disease modifying anti rheumatic drugs (DMARDs) and CAT 1 antitubercular medication by local physician. He also developed anorexia, fatigue, generalized weakness and weight loss. His bowel and bladder habits were normal. He had no cough, rash, other joint or eye problem and other comorbid conditions.

Before admission his initial investigations revealed neutrophilic leukocytosis with raised erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP). X-ray right shoulder joint was unremarkable. Ultrasonography (USG) of right shoulder was suggestive of suppurative tenosynovitis on right biceps tendon. USG guided aspiration was done from right shoulder joint and culture revealed no growth.

On admission, he looked ill and was mildly anemic. His right shoulder was diffusely swollen (Figure 1). Both active and passive movements were restricted in all directions with no other systemic findings.

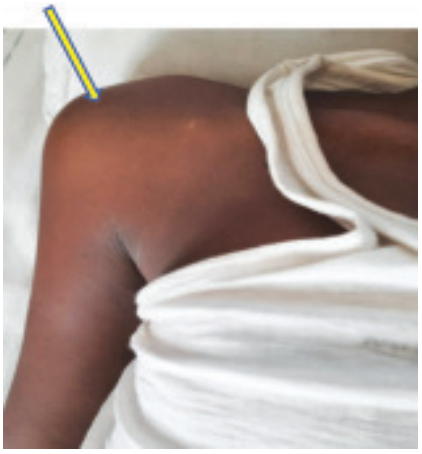

Figure 1. Swollen right shoulder region of the patient

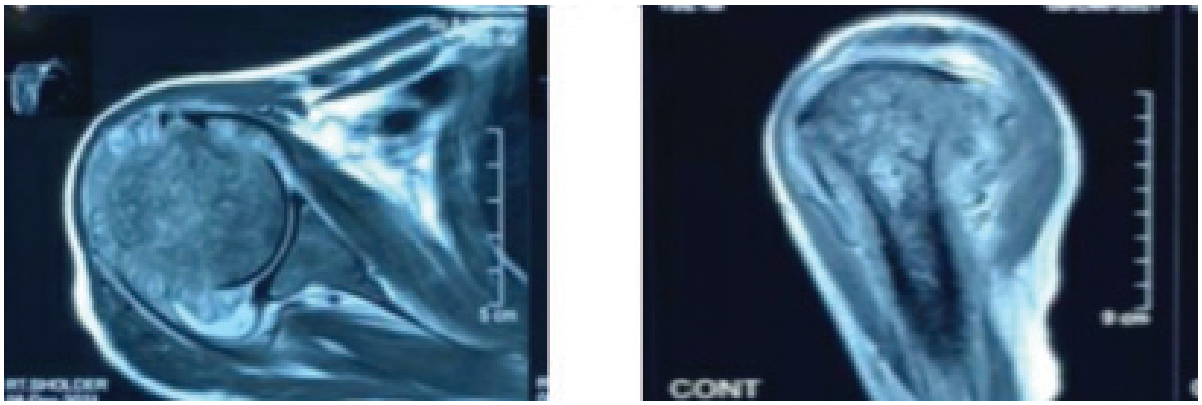

Figure 2. MRI of right shoulder joint showing multiple enhancing lesions in the head, neck, part of shaft of the humerus, glenoid cavity and part of the scapula with involvement of rotator cuff and biceps muscles

Magnetic resonance imaging (MRI) of right shoulder was done and it revealed multiple enhancing lesions in the head, neck, part of shaft of the humerus, glenoid cavity, and part of the scapula with involvement of rotator cuff and biceps muscles suggesting metastasis with superadded infection (Figure 2). USG and computed tomography (CT) abdomen showed a right renal mass with intrabdominal lymphadenopathy and secondary lesions in the liver with ascites (Figures 3 & 4). Renal biopsy confirmed RCC, clear cell type (Fuhrman nuclear grade 2). A CT guided fine needle aspiration cytology (FNAC) from the right shoulder joint also confirmed metastatic adenocarcinoma. Unfortunately, the patient expired

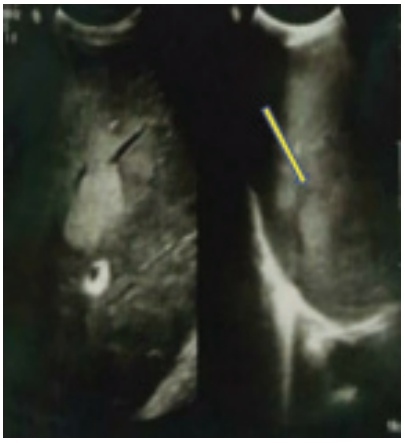

Figure 3. USG of whole abdomen showing mild ascites, abdominal lymphadenopathy, suggestive of hepatic secondaries, soft tissue mass in the right renal pelvis causing moderate hydronephrosis, right VUJ soft tissue mass with calcification/right VUJ stone

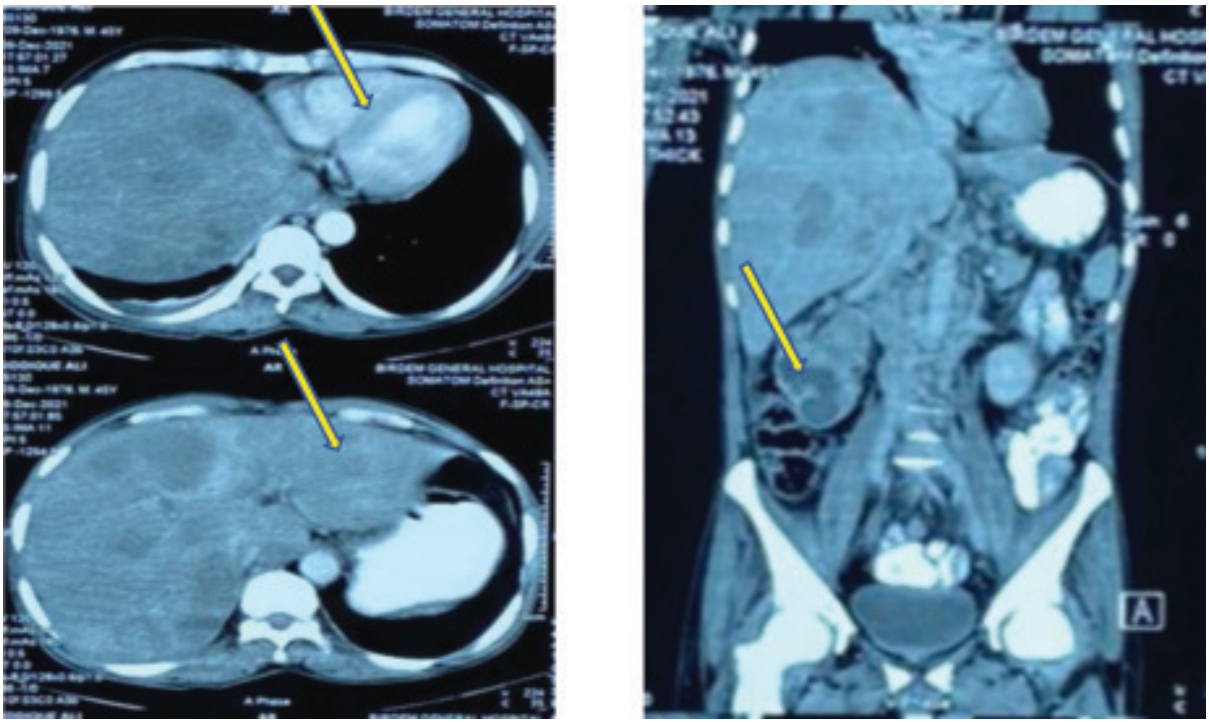

Figure 4. CT scan of abdomen showing mass in the right renal pelvis involving right VUJ and right ureter, secondaries in the liver and abdominal lymphadenopathy

DISCUSSION

Metastatic disease of the skeleton often occurs in patients with malignancy, accompanied by bone damage and pain is the main manifestations. Malignant tumors prone to bone metastasis are breast cancer, lung cancer, RCC and other common primary cancers, including prostate and thyroid.[4]

RCC is a group of malignancies arising from the epithelium of renal tubules, subdivided into different histopathologic entities, with clear cell RCC is the most frequent.[5] The highest incidence is in individuals in the sixth and seventh decades of life, with a median age of diagnosis at 66 years. Characteristically, the tumor is slow-growing and encapsulated in its early stages and thus remains asymptomatic. In some cases, metastasis precedes the clinical manifestations of the primary tumor.[6] Here, our patient was a 40-year-old cultivator presenting with skeletal related event, shoulder pain as the initial complaints without any abdominal symptoms. The classical triad of RCC is flank pain, hematuria and palpable abdominal renal mass present in almost 9% of the patients[1] and many (25%) are asymptomatic until the disease is advanced.[2] Though USG and CT scan of abdomen showed right renal mass with lymphadenopathy and metastasis to the liver, our patient did not have any abdominal symptom.

Most common metastases in RCC occur in lungs (45%), bone (30%), lymph node (22%), liver (20%), adrenal gland and brain (9%).[7] Only 0.4% RCC patients present with bony metastasis as the initial feature, like our patient. Bone metastases of RCC are mainly osteolytic, thereby decreasing bone integrity, inducing bone pain and resulting in significant morbidity for patients with associated skeletal-related events.[3] Skeletal-related events are pain, impending fracture, nerve compression, hypercalcemia and pathological fracture which may significantly decreases patients' quality of life.[8] Most bone metastases occur in the spine (15%), followed by the pelvis and long bones.[9] Our patient presented with shoulder pain which was grade III tender with raised temperature and both active and passive movements were restricted in all directions.

Most patients initially present with metastatic RCC that is suggestive of a widely disseminated disease and have a median survival of 1 year.[10] Selvi and colleagues

reported, higher number of metastatic sites, concomitant metastases, higher Fuhrman nuclear grade and non-clear cell histology are indicators of poor prognosis.[11] Good prognostic factors for RCC generally includes younger age (less than 60 years at the time of metastasis), early stage at diagnosis, single metastasis, low grade, absence of symptoms, small tumor size and good performance status. Our case presented at 40 years of age with 8 months of suffering diagnosed as clear cell type RCC (Fuhrman nuclear grade 2) with multiple site metastasis (liver, lymphnode, bones). Early diagnosis and prompt treatment reduces long term skeletal complications of .[12.]

Radiation can be palliative for the bone pain. Systemic chemotherapeutic agents are not beneficial for metastatic RCC. Surgery is the best modality of therapy in bone metastasis of RCC which is practically palliative. Two percent of the patients require surgery. Sunitinib (tyrosine kinase inhibitor) as a new therapeutic agent is used recently in metastatic RCC with increased disease-free survival and tolerable side effects.

In conclusion, when faced with cases of chronic monoarthritis that progressively deteriorate despite conventional treatments, clinicians should consider the possibility of an underlying malignancy. This cautious approach ensures comprehensive care and the consideration of all potential diagnoses.

Authors' contribution: SY was involved in the diagnosis, patient management, manuscript writing and literature review. All other authors were involved in evaluation and management of the case.

Consent: Informed consent was obtained from the kinsman of the patient after describing the method and purpose of the case report.

Conflict of interest: Nothing to declare.

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