International Surgery Journal
Bansal M et al. Int Surg J. 2022 May;9(5):1105-1107
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20221166

Case Report

Abdominal wall metastasis and hyponatremia in metastatic renal cell carcinoma

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Received: 16 March 2022
Revised: 04 April 2022
Accepted: 11 April 2022

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ABSTRACT

Renal cell carcinoma (RCC) is a frequently encountered urological malignancy. It accounts for 2% to 3% of all adult malignant neoplasms, and usually carries a poor prognosis. About one third of patients with RCCs have distant metastases at the time of diagnosis and in one fourth, metastasis occurs despite radical nephrectomy. The most frequent sites of metastasis include lung (50-75%), bone (30-40%), liver (30-40%), brain and thyroid (25%). Subcutaneous metastases are uncommon, with very few reported cases and typically imply a poor prognosis (3.4% incidence). Hyponatremia is a poor prognostic marker in malignancy and is rarely associated with RCC. We report a case of metastatic anterior abdominal wall nodules and hyponatremia in a 65 years old gentleman diagnosed with left renal cell carcinoma.

Keywords: Abdominal wall metastasis, Hyponatremia, Renal cell carcinoma

INTRODUCTION

Renal cell carcinoma (RCC) is among the 10 most common cancers worldwide. It is seen twice more commonly in men than women, and seen in sixth to eighth decade of life.[1] The classic triad of RCC (flank pain, gross hematuria, and palpable abdominal mass) is seen in less than 10% of cases. Metastasis have been described in 30% cases at presentation, and is associated with high mortality.[2] Abdominal wall metastasis is very uncommon in RCC. Hyponatremia carries poor prognosis if associated with RCC.[8] In view of its rarity of occurrence, we report a case of advanced RCC in a 65 years old gentleman.

CASE REPORT

A 65 years old gentleman, recently diagnosed hypertensive and chronic smoker, presented to surgery outpatient department (OPD) Lady Hardinge Medical College (LHMC) with complains of dull aching, intermittent pain in his left flank for 7 days, associated with increased frequency of micturition. Left flank pain was non radiating and not relieved on medication.

Apart from a history of significant weight loss of 6 kilograms in past 1 month, he gave no other significant past history.

On general physical examination, vital signs were within normal limits. No lymph nodes were palpable.

On per-abdominal examination, the patient had left renal angle fullness and dull note on percussion, with two 2x2cm smooth, hard, round to oval shaped, non-tender subcutaneous lumps in right lumbar and right iliac fossa, and three similar small lumps nearby, with normal overlying skin color (Figure 1).

Evaluation of serum electrolytes revealed hyponatremia (Na 124 meq/l). Rest of the blood investigations were normal.

Figure 1: Abdominal wall nodules.

USG abdomen revealed a large lobulated heterogenous soft tissue mass lesion of 14.3×11.8×10.9 cm in left suprarenal area with internal calcification, foci of cystic areas and mild internal vascularity. Findings were suggestive of renal cell carcinoma, with mild right pleural effusion.

Contrast enhanced computed tomography (CECT) chest and abdomen revealed presence of a large heterogeneously enhancing lobulated mass lesion of 12×13×13 cm with non-enhancing areas within, at the upper pole of left kidney, encasing left adrenal artery, displacing, and compressing the left renal artery anteriorly. It abutted abdominal aorta origin of celiac artery and superior mesenteric artery medially, encasing aorta by 180° with loss of fat planes (Figure 2). Few small lesions were noted in left lobe of liver, suggestive of metastasis. Few heterogeneously enhancing subcutaneous nodules were noted along the right abdominal wall suggestive of metastasis (Figure 3). There was right pleural effusion (likely malignant) and mediastinal lymphadenopathy.

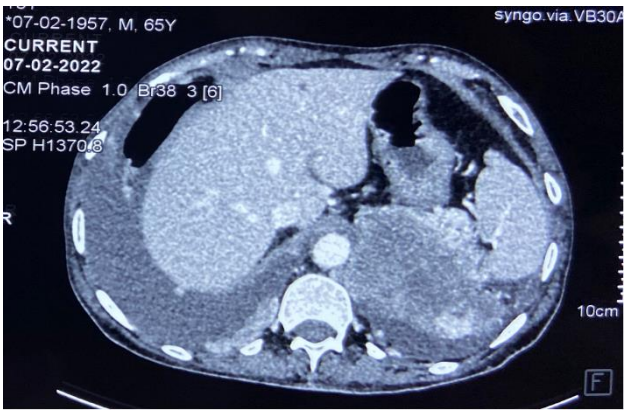

Figure 2: CECT abdomen: mass lesion abutting abdominal aorta origin of celiac artery.

Pleural fluid cytology showed atypical cells.

Fine needle aspiration cytology (FNAC) from anterior abdominal wall swelling revealed atypical cells with hyperchromasia, irregular nuclear borders, abundant finely vacuolated cytoplasm, and atypical mitosis (features suggestive of metastatic carcinoma) (Figure 4).

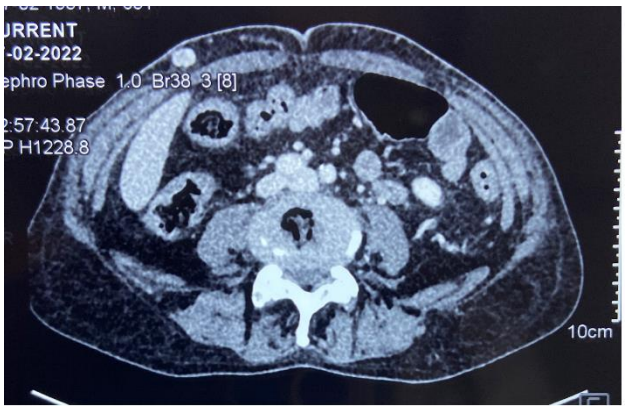

Figure 3: CECT abdomen: heterogeneously enhancing subcutaneous nodules in right abdominal wall.

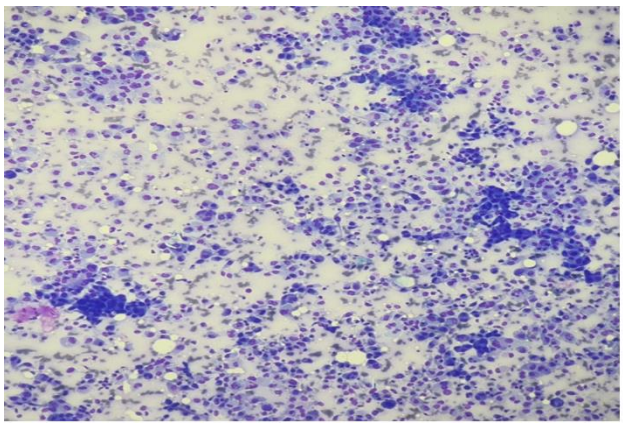

Figure 4: FNAC from abdominal wall nodule showing atypical cells.

Based on these findings and investigations, a diagnosis of metastatic left RCC with abdominal wall metastasis and hyponatremia was made. In view of systemic metastasis and non resectability, patient was planned for palliative chemoradiotherapy.

DISCUSSION

RCC accounts for about 2% to 3% of all adult malignant neoplasms and is the most lethal of the common urologic cancers. It typically presents in the sixth and seventh decades of life. About one third of patients with RCCs already have distant metastases at the time of diagnosis[2] and in one fourth, metastasis occurs despite radical nephrectomy. The metastatic pathway for subcutaneous metastasis in RCC is not clearly defined, partly because of its complex lymphatic drainage.

The most frequent sites of metastasis in RCC include lung (50-75%), bone (30-40%), liver (30-40%), brain and

thyroids (25%).[3] Cutaneous metastasis is relatively uncommon. A study done in India over a 12-year period, reviewing 306 cases of RCC, found only 10 cases of skin and subcutaneous metastasis.[4] It may be caused by direct extension, peritoneal implantation, lymphatic metastasis or hematogenous spread.[5] They usually present as round to oval shaped, rapidly growing cutaneous or subcutaneous nodules, with varying colours from normal skin colour to red-purple colour. Most common sites for cutaneous metastasis in RCC are scalp, followed by chest and abdomen. RCCs presenting as a cutaneous horn or pyogenic granuloma-like lesions have been described.[5] The incidence of cutaneous metastases from the renal malignancies has been reported as 3.4%.[6] Subcutaneous abdominal wall metastases at the time of presentation of advanced RCC are uncommon and usually imply a very poor prognosis and low survival rate.[6]

Low serum sodium is a new, validated, independent prognostic, and predictive factor in patients with metastatic RCC.[7] A baseline of low serum sodium has been associated with poor prognosis and is a simple and useful tool for stratifying patients. The mechanism of hyponatremia is not well understood. Some studies have acknowledged SIADH as a possible cause of hyponatremia.[8] Other cancer related causes include renal dysfunction in the exchange mechanism of sodium in the tubules, adrenal dysfunction and cerebral salt wasting. But overall, these potential mechanisms are at best speculative and further studies are needed to determine the exact mechanism of hyponatremia.

CONCLUSION

Findings like abdominal wall nodules underline the importance of thorough clinical examination and proper radiological, cytological and histological correlation in the effective prognosis and management of renal cell carcinoma.

Hyponatremia is an effective and simple test which can be used as a prognostic indicator. However, use of serum sodium as a predictive biomarker and as a routine part of prognostic tools requires further research and investigation.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Bansal M, Kumar A, Mohta A, Aggarwal L, Ali S. Abdominal wall metastasis and hyponatremia in metastatic renal cell carcinoma. Int Surg J 2022;9:1105-7.