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Unusal Presentation of Metastasis from a Renal Cell Carcinoma- A Case Report with Review of Literature

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Abstract- Renal cell carcinoma (RCC) is the most frequent urological malignancy in adults and has a male preponderance. It accounts for approximately 3% of adult malignancies and 90%–95% of neoplasms arising from the kidney. Metastases have been reported to develop 17 or more years after the primary lesion is removed[1]. Most cases invade peri-nephric fat & regional lymph nodes. Invasion of the renal vein was a common finding but nowadays seen in < 10% of cases. Most common distant sites are lungs & skeleton, also seen in the adrenal gland, liver, skin, soft tissues, CNS & ovary.[2]

This is the case of a 57- year-old male, who presented with a left abdominal wall mass, which was proven to be a metastatic deposit from a clear cell RCC on FNAC as well as PET scan. The rare presentation in soft tissue should be suspected, which also needs to be differentiated from a benign soft tissue tumor.

Keywords: *metastasis, renal cell carcinoma (RCC), soft tissue.*

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Unusal Presentation of Metastasis from a Renal Cell Carcinoma- A Case Report with Review of Literature

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I. Introduction

Renal cell carcinoma has a widespread and very unpredictable metastatic potential, even after a nephrectomy. Its metastatic potential most commonly extends to lungs, lymph nodes, bones, liver, and brain. In few autopsy series, approximately 0.4% of cases with skeletal muscle metastasis have been reported.[5] Due to increased use of modern diagnostic modalities of choice like ultrasound and CT scan, diagnosis of RCCs has increased in early stages[7]and a majority are diagnosed incidentally during an investigation for other disease process of abdomen.[9] The Classical triad of gross hematuria, pain and a palpable mass in the abdomen is rare accounting to only 6–10%.[8]

Ultrasound and cross-sectional imaging like CT scan and MRI are needed to establish the diagnosis. Treatment of early stages of disease, i.e. localized disease is partial or radical nephrectomy. Recurrent lesion [>10 years] is rare in RCC [4]. The recurrence rates are about 10.5%–21.6% at 15 and 20 years respectively as described by Miyao et al.[10]

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II. Case Report

A 57-year-old male patient presented to the FNAC unit of pathology department with complaints of abdominal wall lump for one month. He was a known case of renal cell carcinoma operated in a reputed hospital in 2013.The Patient was on Votrient (Pazopanib- a potent receptor tyrosine kinase inhibitor) approved for treatment of renal cell carcinoma.

On examination, he was having an HB value of 14 gms/dl. There was a swelling in the lower abdominal wall which was firm in consistency and measured approximately 2.5 cm in greatest dimension.

FNAC was done and send to The Pathology department. Microscopy showed sheets and clusters of atypical cells with round to oval nuclei & finely granular to clear cytoplasm (Fig.1, 2). Moderate anisokaryosis & atypical bare nuclei also noted.

The patient gave a history of radical nephrectomy 5years back with a history of left iliac fossa pain for the last few months, following which he received few cycles of chemotherapy (Votrient).

With the previous history of renal cell carcinoma and nephrectomy, the diagnosis of metastatic deposit from a clear cell RCC was given on cytopathology.PET SCAN was done which revealed a large lobulated FDG avid heterogeneously soft tissue mass with perilesional infiltration in left lumbar region & an FDG AVID nodular mesenteric soft tissue deposit in left iliac fossa measuring 2.3 x 2.1 cms.

III. Discussion

Renal cell carcinoma is the most common primary renal malignant neoplasm in adults and accounts for approximately 90% of renal tumors which makes up to 3% of all adult malignancies. Although advancements in diagnostic procedures have led to early detection of RCC, a third of patients newly diagnosed with RCC are still found to have metastatic disease at the initial presentation.[12] Furthermore, about half of patients who are successfully nephrectomized suffer metastases to several organs during follow up.[13] Solitary metastasis develops in 1/3rd of cases of RCC, which is normally localized at the time of initial diagnosis. The most common sites of distant metastasis

are lungs (50%), lymph nodes (35%), liver (30%), bone (30%) and adrenal gland (5%).

Soft tissue metastasis is usually a very rare phenomenon.RCC is reported to have a widespread and unpredictable metastatic potential, in spite of a curative nephrectomy. Late recurrence is a very unusual presentation of this tumor.[3] In a study of Mc Nichol's[6], 11% of metastatic RCC cases occurred more than ten years after the initial diagnosis, even after total resection. Making a diagnosis of metastatic RCC to the soft tissues is very challenging because the differential diagnosis is a soft tissue tumor. It is important to differentiate the two, as aggressive surgical resection is necessary for metastatic RCC, but not for benign soft tissue tumor. RCC is characterized by high signal intensity in T1 and T2 weighted images, which helps to differentiate it from primary soft tissue tumors[3].

Pazopanib is an oral angiogenesis inhibitor targeting the VEGF receptor, PDGF receptor, and c-KIT. In a recent prospective randomized trial of pazopanib versus placebo in treatment-naive or cytokine-treated m RCC patients, there was a significant improvement in progression-free survival and tumor response, 9.2 months vs. 4.2 months[11].

IV. Conclusion

The incidence of metastatic renal carcinoma is increasing. The overall prognosis of a patient with advanced RCC is poor, emphasizing the importance of early detection and prompt treatment of a primary lesion in its early stage. Rare sites of metastasis should be considered in the differentials of a soft tissue setting, with a known history of RCC. Biopsy finding of a clear cell lesion should also arouse the suspicion of a clear cell RCC metastasis.[4]

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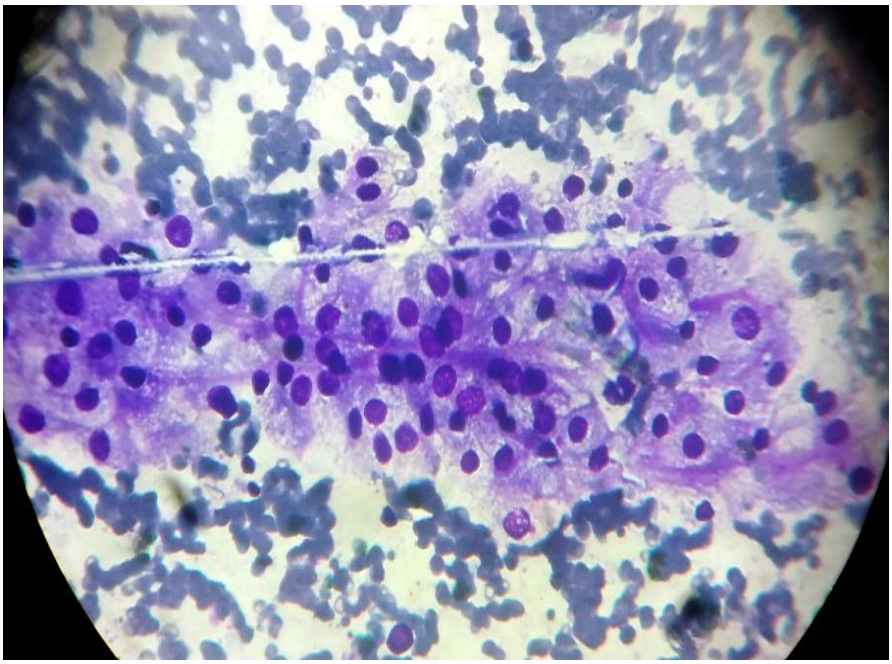

Fig.1: Cluster of cells with clear cytoplasm1

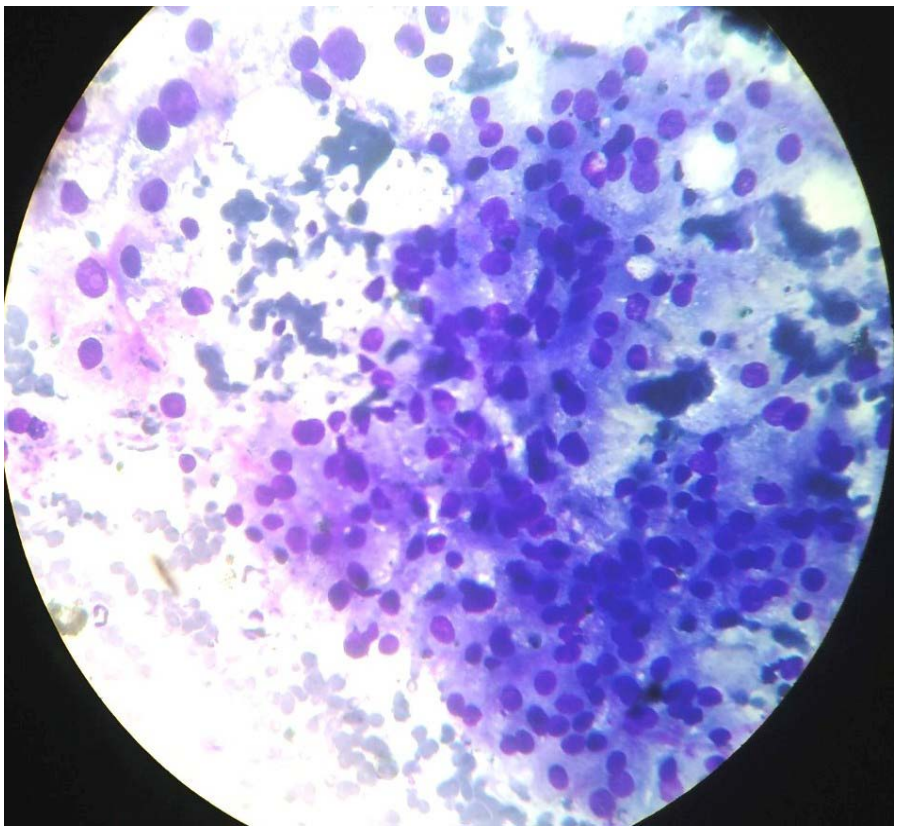

Fig. 2: Clusters of cells (under40X)

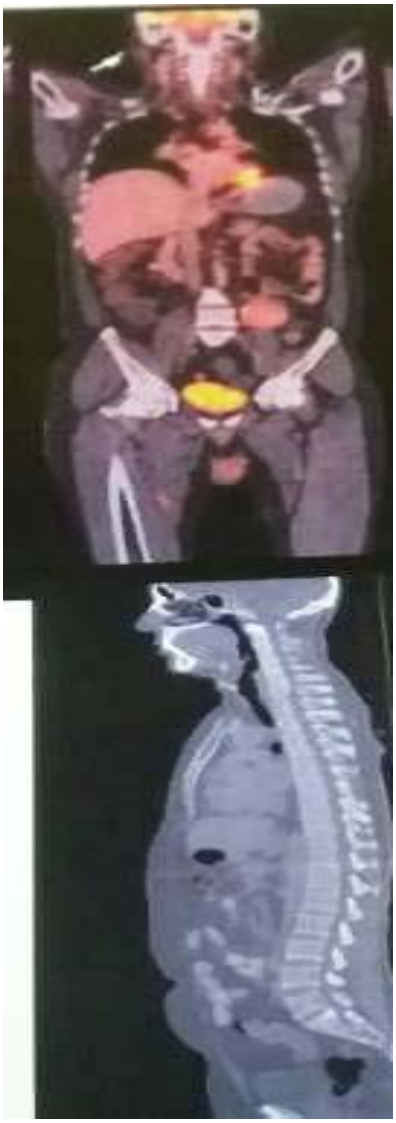

Fig. 3: PET scan with FDG avid area in iliac FOSSA 1

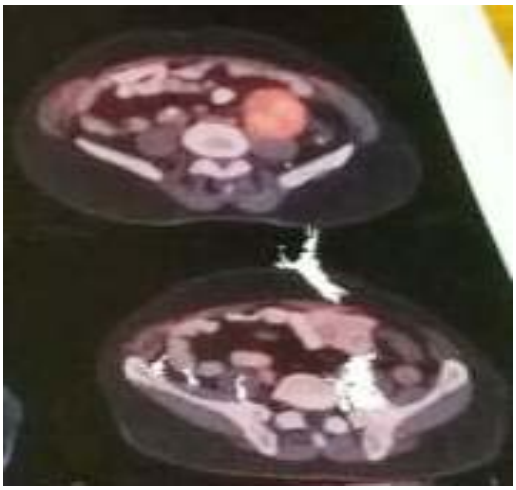

Fig. 4: PET scan with FDG avid area in iliac FOSSA 2