

Case Report

Dermatologic clue to renal cell carcinoma: a case report

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ABSTRACT

Visceral malignancies often present as cutaneous lesion and are an important clue towards the diagnosis. Authors report a case of a 64 years old male, who presented to us with right hemiparesis and multiple purple-red skin lesions. Systematic evaluation, thorough history and histological examination of the skin lesion showing the characteristic lesion lead to a final diagnosis of Renal Cell Carcinoma. Although in the history and physical examination there was no sign of Renal Cell Carcinoma, but eventually the case turned out to be an extensively spread cancer. This kind of Cutaneous lesions in a case of RCC is a rare phenomenon and has not been frequently mentioned in the previous literature, thus this case reminds us about the importance of a detailed clinical look out in each and every patient and various clues to make a correct and timely diagnosis of systemic diseases. The list of visceral malignancies causing cutaneous metastasis is quite long and requires a battery of test to diagnose the same.

Keywords: Chicken wire vasculature, Cutaneous metastasis, Malignant renal cell carcinoma, Lymphohematogenous spread

INTRODUCTION

Renal cell carcinoma (RCC) accounts for 3% of all adult malignancies.¹ The classic triad of RCC include flank pain, haematuria and a palpable abdominal mass, it is quite uncommon to find all three in same patient. Most present with one of these symptoms and some patients may present with symptoms from secondary metastases. 30% cases of renal cell carcinoma (RCC) develop metastasis.²

RCC can be aggressive to involve any organ.¹ Cutaneous lesions of Metastatic RCC is very rare.² The development of RCC related cutaneous metastasis in the head and neck region is very unusual.³ The case presented here, had cutaneous metastasis in the scalp region. Such a presentation is very rare.

CASE REPORT

A 64 years old male brought to our emergency room with the complaints of right sided weakness of body which was acute in onset and gradually progressive and history of skin lesion for 1 month with no significant history of any chronic disease like diabetes mellitus, hypertension etc. Patient was a chronic smoker and nonalcoholic and had no similar complaints in past. His initial physical examination included the following vital signs: blood pressure 130/84 mmHg, heart rate 78 beats/min, respiratory rate 18 breaths/min, temperature 37 degree Celsius, and oxygen saturation 94% on room air. With such a presentation the first diagnosis kept was stroke, for which we investigated patient thoroughly and started with routine blood investigation and immediately a CT brain was performed revealing a hypodense lesion involving left superior parietal lobe with diffuse vasogenic

parenchymal edema. Patient was given antiedema measures and supportive care was started. The skin lesions were present at multiple sites and were raised from surface, reddish purple and soft in consistency (Figure 1).



Figure 1 : Cutaneous lesion over scalp.

Patients initial blood reports were absolutely normal (Table 1), however urine microscopy revealed macroscopic blood and protein, so we went for an ultrasound of the abdomen to look for any renal pathology and to our surprise we found a 46 ×41 mm heterogenous mass with vascularity and few foci of calcifications.

Table 1: Routine investigations.

Investigations	Results
Random blood sugar	90 mg/dl
Serum creatinine	0.95 mg/dl
Serum urea	35 mg/dl
Sodium	138 mMol/l
S.G.O.T	32 U/L
S.G.P.T	37 U/L
Haemoglobin	9.1 gm/dl
T.L.C	5.6*1000/mm ³

With renal mass on our mind we went for the biopsy of the skin lesion and histopathological examination revealed a skin infiltration by tumor composed of compact, alveolar architecture of cells with clear cytoplasm and also a network of small, thin walled, “chicken wire” vasculature (Figure 2). MRI brain was performed for the possible renal metastasis to CNS, which revealed a Disc enhancing lesion in left medial frontal lobe measuring 10×12 mm showing thick enhancement and no enhancing necrotic core, suggesting a metastatic lesion. CT thorax also revealed multiple metastatic lesions.

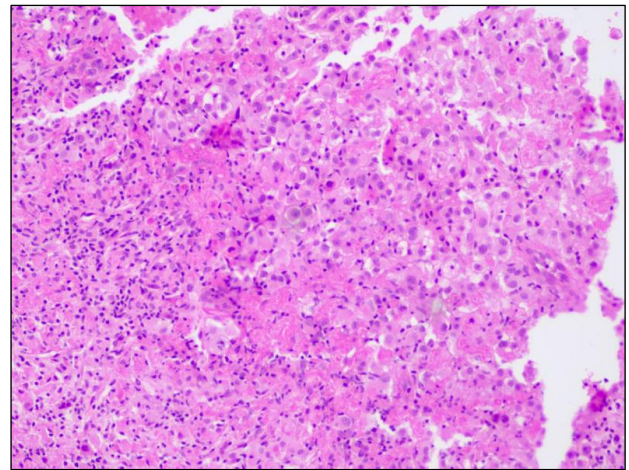


Figure 2: Histopathological image of cutaneous lesion.

DISCUSSION

Most cases of RCC are diagnosed during examination for other causes or by the appearance of metastatic lesions. Cutaneous metastasis in RCC is rare; its incidence is only 3.4%.³⁻⁵ Most of the reported cutaneous metastasis cases associated with RCC occurred in males, our case as well, was a male and thus supports the previous reported literature of male predominance.^{6,7} There are number of various mechanisms, which can explain the cutaneous metastases in visceral malignancies. The most common pathway involved is direct invasion of skin tissue surrounding the malignant mass. Other potential mechanisms include the spread of tumor cells during surgery, hematogenous and lymphatic spread. The rich vascular structure of RCC facilitates hematogenous extension and the development of distant metastases. Tumor-related growth factors, such as parathyroid-related protein and truncated fibronectin growth-promoting substance, may also play an important role in the localization of cutaneous metastasis in the head and neck regions.⁸⁻¹¹ In this case, the scalp metastatic lesion containing vascularly rich tumor tissue suggests a likely lymphohematogenous extension. The cutaneous metastasis of RCC often presents as a solitary, shiny skin lesion that is red-to-purple in color. In some cases, however, the lesions are scattered, plaque like, or nodular. In our case the lesions were multiple and were purplish-red in color. The rich vascular component of cutaneous metastasis in RCC may present as a clinical confusion with hemangiomas, pyogenic granulomas, and Kaposi’s sarcoma.^{3-5,10} The appearance of the lesion can also mimic as cutaneous cysts, lymphomas, or abscesses.¹¹ RCC has been diagnosed through dermatological metastasis as in our case, where the primary tumor was too small to be detected on clinical examination.⁸ The detection of primary tumor and histopathological examination is an important step during investigation, when making decisions about treatment. Cutaneous metastasis in RCC is often presents as intradermal nodules with a thin space between the epidermis and the tumor tissue.³⁻⁵ Most RCC-related

cutaneous metastases, has morphological appearance that is consistent with clear-cell adenocarcinoma.³ The tumor cells are large, with clear cytoplasm and oval nuclei.⁵ The development of cutaneous metastasis in RCC is a sign of grave prognosis. Most patients have a life expectancy of 6 months of cutaneous metastasis detection. Treatment options are mostly palliative. Our case was referred to the medical oncology department for further management.

CONCLUSION

Cutaneous metastasis is a rare manifestation of RCC, but it can prove to be an important diagnostic clue. RCC must be taken into consideration, during the differential diagnosis of tumors with distant metastasis and cutaneous spread in the head and neck region. Also, a thorough general physical examination in each and every case can't be overemphasized.

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