Left Supraclavicular Lymph Node Recurrence after the Left Radical Nephrectomy: A Rare Presentation with Review of Literature

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ABSTRACT

Renal cell carcinoma (RCC) presenting as left supraclavicular lymph node recurrence is rare, even though it can spread to any site in the body. There are very few cases of RCC with metastasis to the head and neck areas reported in the literature. Here, we report a case of clear cell carcinoma of RCC in a 16-year-old female who presented with the left supraclavicular recurrence after 5 months of radical nephrectomy. There were no metastasis foci identified elsewhere in the body. The patient was treated with sorafenib. After treatment, the lymph node regressed in size with no significant side effects. Clinicians and pathologists both should be aware of this unusual site of presentation during the evaluation of single-site metastasis in RCC.

Keywords: *Carcinoma, Kidney, Metastasis, Nephrectomy, Recurrence.*

Renal cell carcinoma (RCC) has multiple histological subtypes, with different biological behaviour. Approximately, 20 to 40% clinically localised RCC can develop metastasis. The 10-year survival rate of metastatic RCC is less than 5% [1]. Metastasis to head and neck area is very uncommon as it most commonly spread to lung, liver and bone [1,2]. RCC presenting with left supraclavicular enlarged lymph node postoperatively is very rare and very few cases are reported in the literature [2]. Here, we report a case of RCC post-radical nephrectomy presenting with left supraclavicular recurrence with a review of the literature.

CASE REPORT

A 16-year-old female presented with complaints of mass per abdomen of 3-month duration which was gradually increasing in size, anorexia, malaise and left flank pain 3-month duration. The pain was dull aching, non-radiating and not associated with nausea or vomiting. There was no history of haematuria, fever, cough, breathlessness, or any other swelling in the body.

On examination, she had a pulse rate of 68 per minute, blood pressure of 114/70mm Hg and pallor was present with lymphadenopathy. On per abdomen examination, a mass of 10x12cm was occupying left lumbar, left hypochondrium and umbilical area. The mass was non-tender, has smooth surface and firm consistency. On bimanual palpation, all the margins were well felt except posterior as it was merging with the muscular plane.

Investigation revealed haemoglobin of 6.2g/dl and other blood investigations were normal. The renal function test, liver function tests and serum calcium level were normal. The chest X-ray was normal. Ultrasound showed ill-defined heterogeneous mass arising from the lower pole of the left kidney measuring 10x11.5cm size with gross hydronephrosis. Contrast-enhanced computed tomography (CECT) showed a well-defined arterial phase enhancing mass (85HU) lesion in the lower pole of the left kidney. The mass was of 7x7.x10.3cm with moderated hydronephrosis with normal left renal vein and with no thrombus. No retroperitoneal lymphadenopathy was noted.

Preoperatively, she was given two units of packed red blood cells and underwent the left radical nephrectomy. The postoperative period was uneventful and she was discharged on day 7. Histopathological examination showed clear cell variant of RCC without capsular invasion and no evidence of renal pelvis/sinus invasion with the International Society of Urological Pathology (ISUP) Grade of 3. Finally, based on the histological examination, a diagnosis of left RCC of clear cell variant with stage 2 (pT2b No Mo) was given.

She underwent CECT of abdomen and pelvis at three months follow-up and no significant abnormality was detected. On the 5th month follow-up, she again presented with swelling in the left supraclavicular area. The swelling persisted for 1 week and gradually increased in size. On examination, a left Virchow's lymph node (LN) was enlarged. The lymph node was of 2x2cm in size, non-tender, firm in consistency and mobile. Complete hemogram, liver function tests and renal function tests were normal. CECT neck and thorax showed an enlarged lymph node measuring 18x19mm in the left supraclavicular area (Fig. 1).

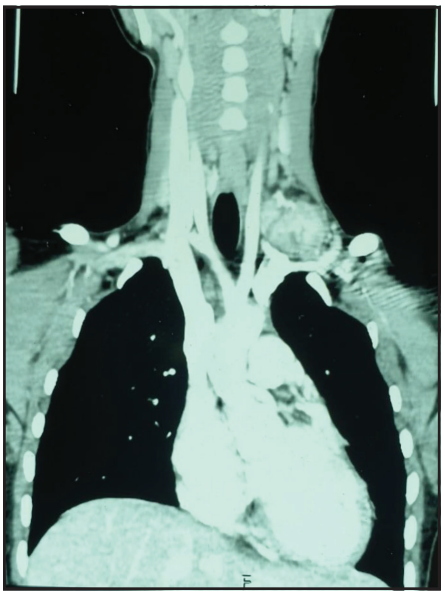

Figure 1: CECT showing enlarged left supraclavicular lymph node.

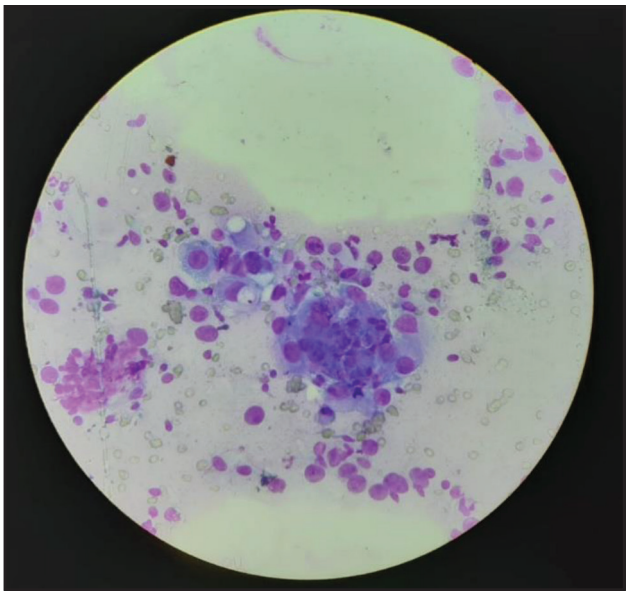

Figure 2: Fine needle aspiration from the left supraclavicular lymph node showing metastatic deposit from the renal cell carcinoma.

Fine needle aspiration cytology was done which showed feature suggestive carcinoma cell resembles metastatic deposits of RCC (Fig. 2). CECT of abdomen and pelvis showed no significant abnormality. She was treated with tablet sorafenib 200mg once a day for three months. On subsequent follow-up, the left supraclavicular lymph node decreased in size (5x5mm) as shown in CECT.

DISCUSSION

Renal cell carcinoma accounts for 2-3% of all malignancy and the second most common urological cancer, with male predominance1. Usually, the carcinoma manifest in the 6th or 7th decade of life and has bimodal age distribution [1,2]. There are a number of different varieties of RCC derived from various parts of nephron with unique characteristics and tumour behaviour [2]. Clear cell carcinoma of RCC arising from proximal convoluted tubule (PCT) accounts for 70-80% subtype and has a worse prognosis as compared with papillary or chromophobe type of RCC even after stratification for stage and grade [2,3].

RCC most commonly metastasize through hematogenous route to lung (45%), bone (30%), lymph node (22%), liver (20%), adrenal gland (9%) and it is very uncommon for RCC to present as neck lymph node [1]. The exact mechanism of metastasis to the left supraclavicular lymph node is not understood [4]. Metastasis can occur through Batson's paraspinal plexus which is valveless anastomosis network with minimal resistance to tumour emboli. Through this venous plexus by bypassing the pulmonary venous system, metastasis can occur in head and neck area [4,5].

There are several case reports of RCC metastasis to the head and neck area. Kannappa LK et al. reported a rare case of sarcomatoid RCC manifesting with supraclavicular lymph node metastasis [6]. Bouadel N et al. also reported **c**ervical lymph node metastasis in chromophobe RCC [7]. Metastatic RCC in a supraclavicular lymph node with no known primary was reported by Young-Rak Choi et al8. Metastatic cutaneous head and neck RCC with no known primary reported by Bhatia S et al [9]. Elfadaly A et al reported a case of metastatic clear cell RCC with unknown primary in a living donor kidney transplant recipient in a 68-year-old patient who presented with supraclavicular, mediastinal and retroperitoneal lymph node involvement [10].

The metastasis usually involves a single-site and should be treated aggressively with local therapy, radiotherapy and systemic therapy because multimodal treatment can have a long-term disease-free survival rate. In our case, it was a single-site metastasis which was identified through histological examination and CECT. The patient in our case was started on sorafenib which is an oral receptor kinase inhibitor with activity against vascular endothelial growth factor receptor-2 (VEGFR-2), platelet-derived growth factor receptor-β (PDGFR-β), and rapidly accelerated fibrosarcoma-1 (raf-1) (200mg Once a day) [9]. Reported side effects of sorafenib are hypertension, fatigue, rash, hand-foot syndrome, and diarrhoea [11,12]. Our patient responded very well for this medicine but had facial rashes and loss of appetite.

CONCLUSION

Renal cell carcinoma presenting as head and neck metastasis is a very unusual presentation but the clinician and pathologist should consider the possibilities of metastasis as a number ofcase reportspresent in the literature reported about the metastasis of RCC to the head and neck.In our case, the patient has responded well with systemic therapy but if any relapse or progression occurs, the patient should be subjected to radiotherapy and/or surgery.

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