

Case Report

Large Solitary Scalp Metastasis of Renal Cell Carcinoma: A Case Report

A Altinkaya, S Yazar, EC Karadag, O Er¹

Departments of Plastic, Reconstructive and Aesthetic Surgery, and ¹Medical Oncology, Acibadem Mehmet Ali Aydinlar University School of Medicine, Istanbul, Turkey

Received:

25-Oct-2019;

Revision:

20-Apr-2020;

Accepted:

04-Sep-2020;

Published:

13-Apr-2021

ABSTRACT

Renal cell carcinoma (RCC) can metastasize to various organs of the body. The skin is an uncommon site for metastasis. However, if metastasis to skin occurs, scalp is a common area. We present a 77-year-old male patient, with a 12-year history of RCC. In the current presentation, he was hospitalized due to hematuria, fatigue, electrolyte imbalance, and deteriorating kidney functions. After the patient was stabilized, he was referred to the plastic surgery clinic due to an unusual, extremely large, hemorrhagic, ulcerative, and vegetative mass on his scalp. Total excision of the scalp mass was performed and, it was noted that the calvarium was intact and the defect was grafted. Histology report of the specimen confirmed to metastatic RCC. Clinicians need to keep in mind that large cutaneous lesion can be a metastasis from an internal malignancy.

KEYWORDS: *RCC, scalp metastasis, skin cancer*

INTRODUCTION

Kidney and renal pelvis cancer is the 6th most common cancer among men and 10th among women,^[1] most of them are renal cell carcinomas (RCC) arising from renal epithelium. The clinical triad of RCC are; flank pain, hematuria, and a palpable abdominal mass; however, nowadays, most of the patients present with a renal mass detected incidentally. Overall, 5-year survival is 74% whereas, and if diagnosed at late stage, survival is as low as 12%.^[1] Distant metastasis mostly occurs to the lungs, lymph nodes, liver, brain, and bones,^[2] whereas cutaneous metastasis is the seventh most common site of metastatic RCC,^[3] with 3-6% of reported cases in the literature.^[4,5] Among skin metastasis of RCC, the head and neck region; especially scalp is a common site with an incidence as high as 50 percent.^[5-7]

CASE REPORT

A 77-year-old male patient presented with hematuria and fatigue. Twelve years ago, the patient presented with right flank pain and fatigue. Upon abdominal ultrasound, an exophytic mass of 38 × 37 mm was detected in the upper pole of the right kidney. Kidney Tru-cut biopsy was performed, and the mass was identified as RCC. Surgical treatment was recommended; however, the

patient did not accept surgical treatment at that time. During this time-period, patient declined all treatment that was offered.

In current presentation, he was hospitalized due to electrolyte imbalance and deteriorating kidney functions. After stabilization of the imbalance, the abdominal ultrasonography was performed and revealed the mass in the right kidney to be of 10 cm. PET-CT was performed for staging and it revealed the primary tumor on the upper pole of the right kidney and multiple metastasis on lungs, diaphragmatic pleura, lymph nodes of neck, mediastinum, abdomen and scalp. Chemotherapy regimen of Pazopanib 1 × 800 mg tablet and 3 mg ibandronic acid every 3 weeks was started.

The patient was then referred to the plastic surgery clinic due to a large purplish-red, fragile, hemorrhagic, ulcerative and vegetative mass located in the posterior portion of the scalp. There were no other lesions in the scalp. Surgery was planned to excise the mass as it was

Address for correspondence: Dr. A Altinkaya, Acibadem Maslak Hospital, Buyukdere Cad. No: 40, Maslak, 34457, Istanbul, Turkey.
E-mail: altugaltinkaya@yahoo.com

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Altinkaya A, Yazar S, Karadag EC, Er O. Large solitary scalp metastasis of renal cell carcinoma: A case report. Niger J Clin Pract 2021;24:629-31.

Access this article online

Quick Response Code:



Website: www.njcponline.com

DOI: 10.4103/njcp.njcp_584_19

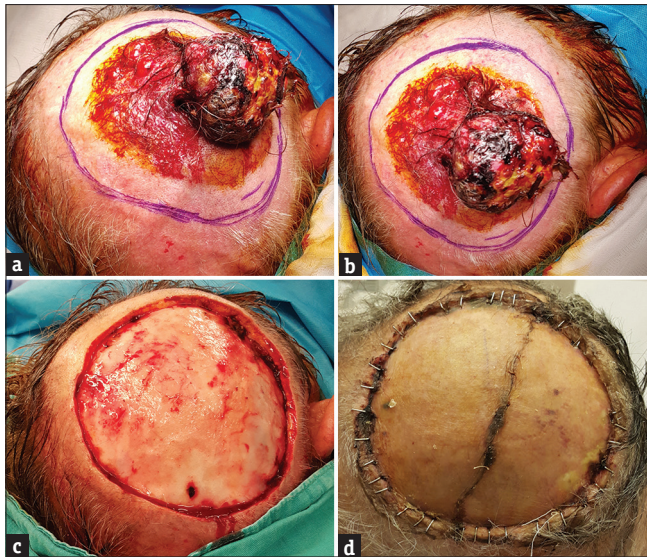


Figure 1: (a and b) Perioperative picture of the mass on patient's scalp with surgical markings before excision, view from above. (c) Postoperative picture of the defect after excision where intact calvarium is notable. (d) Postoperative picture of the defect after the graft was stapled into the defect

hindering the mobility of the patient [Figure 1a, 1b]. The mass was excised under general anesthesia with negative surgical margins [Figure 1c]. The defect was closed with a split-thickness skin graft obtained from the right postero-lateral femoral region of the patient [Figure 1d]. Pathological evaluation of the specimen reported tumor size to be 57 mm × 45 mm and 40 mm depth and confirmed as metastatic clear cell RCC [Figure 2].

Patient died 5 months post-op.

DISCUSSION

RCC metastases to the skin is not a common entity, however, if metastasis to the skin occurs; scalp is a common site. In a study by Brownstein *et al.*, among 482 male patients with cutaneous metastasis; 29 (6%) had kidney as the origin of metastasis and among 29 cutaneous metastases; 5 (17%) of them was to the scalp region.^[5] In another study by Lookingbill *et al.*, among 127 male patients with cutaneous metastasis; 6 (4.7%) of them originated from kidney and among those; 3 (50%) of them were to scalp region.^[6] Additionally, a study by Dorairajan *et al.* revealed that among 306 patients with RCC, 10 (3.3%) had cutaneous metastasis and among those; 50% of them were to scalp region.^[7]

There are several routes of RCC spread. Hematogenous spread of the tumor cells from renal vein to the inferior vena cava, right atrium and eventually systemic circulation and seeding in the lungs is mostly accepted.^[8,9] Additionally, there are theoretical explanations for the isolated metastasis to the head and neck region, including

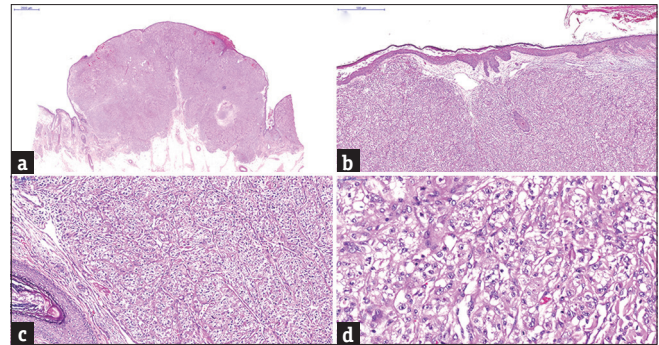


Figure 2: (a) Histological view of the scalp lesion under hematoxylin-eosin. (b) Relation with the skin surrounding and bulging mass is documented (5.7 × magnification). (c) Higher magnification shows the clear cell morphology and high grade tumor (14.2 × magnification), (d) (35.4 × magnification)

scalp. It is postulated that paravertebral venous plexus of Batson allows retrograde spread of RCC to the head and neck region due to its valveless nature.^[2,7-10] From renal vein to plexus of Batson and through vertebral veins to emissary scalp veins, it allows tumors to skip the pulmonary venous system and possibly metastasize into scalp.^[2,8] Furthermore, paradoxical dissemination of a metastatic embolus can also occur if the patient has a subclinical patent foramen ovale allowing passage from right atrium to left atrium and head and neck region with systemic circulation.^[8,9]

Classical morphological appearance of the skin metastasis of RCC has been well described as flesh-colored; brown, red, blue or purple; nodular; highly vascular; pulsatile and ulcerated lesions,^[3,5,6] which was similar to the patient. Due to their appearance, they can mimic many lesions like hemangiomas, epidermoid cysts, fibromas, papillomas, lipomas, neurofibromas, Kaposi sarcoma, pyogenic granuloma.^[3,4]

Skin manifestations as metastasis can be the first signs for internal tumors such as RCC^[2,5] and prognosis for patients with cutaneous metastasis is poor and treatment regarding the metastasis is rather palliative than curative.^[3,4,7] In this report, the patient presented with a cutaneous metastasis of RCC approximately after 12 years of the initial diagnosis of the kidney mass and had a survival of about 5 months after excision of the metastatic lesion.

When the literature review about metastasis of RCC to the scalp region was performed; there was lack of information about accurate sizes of metastasis in the literature. Among all English articles reviewed from PubMed under “renal cell carcinoma, scalp metastasis,” 46 articles related to this topic were obtained and among them; 13 reports contained the accurate data about sizes of the solitary metastasis to the scalp based on the

literature review, this report is the largest reported size of a metastatic tumor from RCC to the scalp without calvarial involvement.

In conclusion, it should be kept in mind that cutaneous metastasis from RCC is not rare but uncommon and clinicians need to be aware that a cutaneous lesion can be a metastasis from a primary internal malignancy.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Siegel RL, Miller KD, Jemal A. Cancer statistics, 2017. *CA Cancer J Clin* 2017;67:7-30.
2. Wahner-Roedler DL, Sebo TJ. Renal cell carcinoma: Diagnosis based on metastatic manifestations. *Mayo Clin Proc* 1997;72:935-41.
3. Amin A, Burgess EF. Skin manifestations associated with kidney cancer. *Semin Oncol* 2016;43:408-12.
4. Mueller TJ, Wu H, Greenberg RE, Hudes G, Topham N, Lessin SR, *et al.* Cutaneous metastases from genitourinary malignancies. *Urology* 2004;63:1021-6.
5. Brownstein MH, Helwig EB. Metastatic tumors of the skin. *Cancer* 1972;29:1298-307.
6. Lookingbill DP, Spangler N, Helm KF. Cutaneous metastases in patients with metastatic carcinoma: A retrospective study of 4020 patients. *J Am Acad Dermatol* 1993;29:228-36.
7. Dorairajan LN, Hemal AK, Aron M, Rajeev TP, Nair M, Seth A, *et al.* Cutaneous metastases in renal cell carcinoma. *Urol Int* 1999;63:164-7.
8. Gottlieb MD, Roland JTJ. Paradoxical spread of renal cell carcinoma to the head and neck. *Laryngoscope* 1998;108:1301-5.
9. Snow S, Madjar D, Reizner G, MacK E, Bentz M. Renal cell carcinoma metastatic to the scalp: Case report and review of the literature. *Dermatol Surg* 2001;27:192-4.
10. Langille G, Taylor SM, Bullock MJ. Metastatic renal cell carcinoma to the head and neck: Summary of 21 cases. *J Otolaryngol Head Neck Surg* 2008;37:515-21.