

## Vaginal metastasis of renal cell carcinoma: a case report

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Key words: Vaginal neoplasm, Secondary, Renal cell carcinoma.

ISSN: 2070-254X

### Abstract

#### Abstract

Vaginal cancer represents less than 2% of genital tract malignancies and most cases are metastasis from cervix, endometrium, or colon. Metastasis of renal cell carcinoma to the vagina is extremely rare. We report the case of a patient who developed a vaginal metastasis of a clear renal cell carcinoma.

### Introduction

Renal cell carcinoma (RCC) can metastasize to nearly any organ, most commonly the lung (50-60%), lymph node (15-30%), bone (30-40%), liver (28%), adrenal gland (10-15%) and central nervous system (10-15%) [1,2].

Vaginal metastasis of renal cell carcinoma is exceptional. It poses a problem of differential diagnosis with primary vaginal carcinomas, which are rare [3].

We report a case of a patient who was treated from a renal cell carcinoma and developed vaginal metastasis 10 months after diagnosis.

### Case report

A 61 years old woman, who had nephrectomy for a renal cell carcinoma. The computed tomography control, performed 3 months after surgery, showed multiple metastases in lung, mediastinum lymph nodes and adrenal glands. Our patient received immunotherapy during 6 months (6 millions units of interferon three times a week). The evolution was marked then months later by the appearance of vaginal bleeding. Clinical examination revealed a vaginal mass measuring 2 cm. Excisional biopsy of the vaginal lesion was performed. The microscopic study showed a carcinomatous proliferation composed of lobules, nests and sheets of atypical large polyhedral cells with nucleoli. The cytoplasm was abundant clear or eosinophilic. The stroma was vascular and inflammatory (figure 1-2). At immunohistochemical study, tumor cells expressed vimentin (figure 3), CD10 (figure 4) and AE1/AE3 (figure 5). The diagnosis of vaginal metastasis from renal cell carcinoma was made.

### Discussion

Adenocarcinoma of the vagina is rare and primitive in only 9%. It is most often of metastatic origin specially gynecologic or colic (65% of cases). [4]

The renal origin of vaginal metastases is exceptional and when occurred they are usually located in the lower third of the anterior wall of the vagina and are manifested by leucorrhea or vaginal bleeding. [5]

These metastases come generally from a left kidney renal cell carcinoma [6]. This is explained by the concept of venous return from renal vein to ovarian and vaginal venous plexus [7,8]. However, our patient developed a vaginal metastasis of renal clear cell carcinoma of the right kidney. This should make us think about the delivery mechanisms still poorly understood [9]. In addition, she had lung and lymph node metastases before the appearance of the vaginal location, which explains the massive involvement of the systemic circulation.

In front of histological appearance of clear cell carcinoma in any location, a renal origin must be eliminated, because kidney tumors have unpredictable course and tend to metastasize in unusual sites.

Immunohistochemical examination may suggest a renal origin by showing the positivity of carcinomatous cells to CD10 and EMA antibodies, but these markers have low sensitivity and specificity [1]. A good collaboration between clinicians, radiologists and pathologists is extremely important to achieve a staging which confirm the renal origin of vaginal metastases.

### Conclusion

A renal origin should be suggested in front of clear cell carcinoma in any location. The renal origin of vaginal metastases is exceptional, their diagnosis mainly includes the pathologist but the anatomical and clinical confrontation and close collaboration between stakeholders is essential for better management of patients.

**Consent:** Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

**Competing interests:** The authors report no conflicts of interests. The authors alone are responsible for the content and writing of the paper. All authors have contributed to this paper

**Authors' contributions:** JK, SB, and BE have participated in the histological diagnosis of the case, reviewed literature, and drafted the manuscript and revised it critically for important intellectual content. SK,IE and HE were in charge of the overall care of the patient. ST, IE and KL carried out the literature review. BE carried out the conception of the case, revised it critically for important intellectual content. All authors read and approved the final manuscript.

### Figures

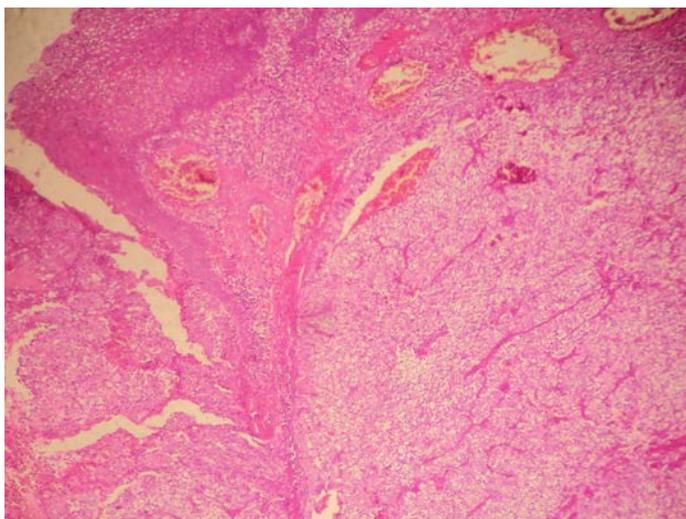


Figure 1: Low power view showing a clear cell neoplasm underlying vaginal epithelium (H&Ex5).

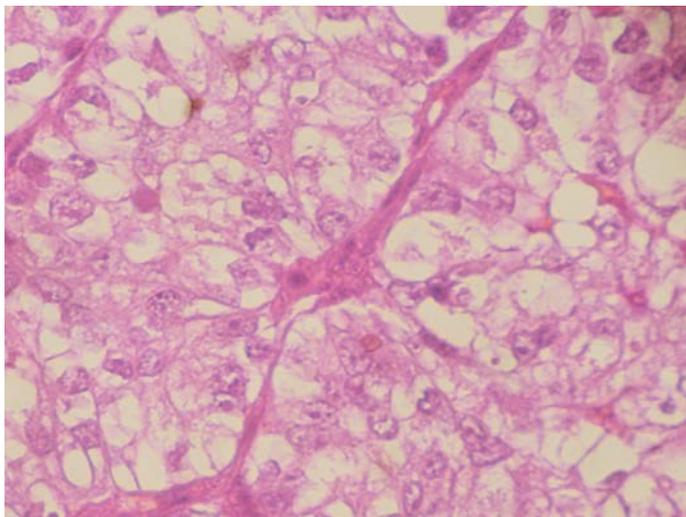


Figure 2: Higher power view showing large polyhedral cells with clear cytoplasm and bland nuclei (H&Ex40)

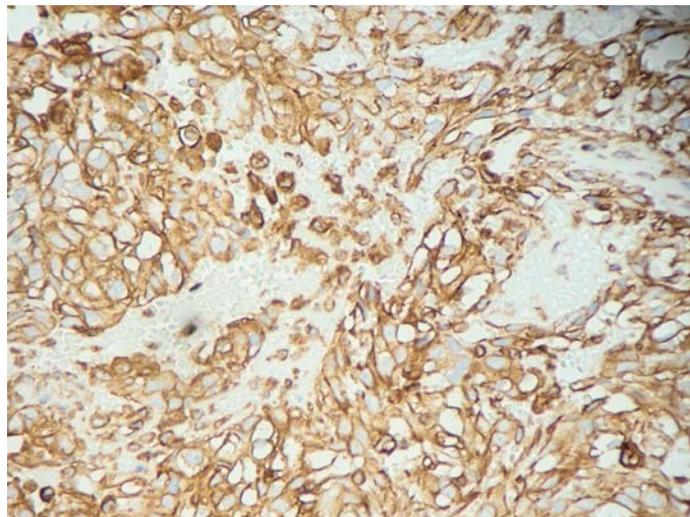


Figure 3: High power view of the lesion demonstrating immunostaining for cytokeratine (Gx 40).

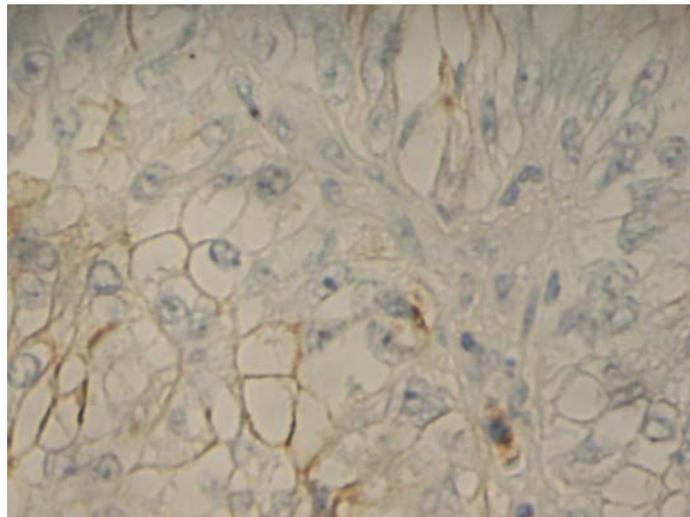


Figure 4: High power view demonstrating positive immunostaining for CD10 (Gx40)

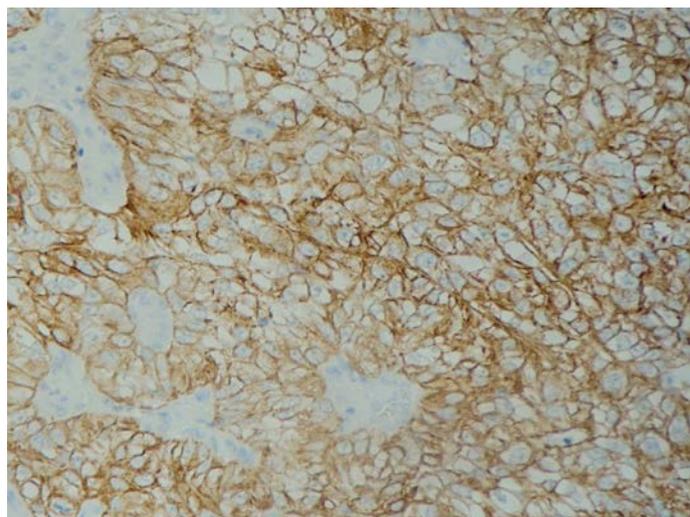


Figure 5: High power view demonstrating positive immunostaining for vimentine (Gx40)

## References

1. San Miguel P, Trinidad C, Atán S, Antón I. Vaginal metastasis as the first sign of renal cell carcinoma. *Actas Urol Esp* 2010, 34(10):911-913.
2. Vidart A, Fehri K, Pfister C. Métastases inhabituelles du cancer du rein. *Ann Urol* 2006, 40: 211–219.
3. Marchal F, Leroux A, Hoffstetter S, Granger P. Vaginal metastasis revealing colon adenocarcinoma. *Int J Colorectal Dis.* 2006 ;21(8):861-862
4. Perez CA, Gersell DJ, McGuire WP, Morris M: Vaginal cancer. In: Hoskins WJ, Perez CA, Young RC, editors. *Principles and Practice of Gynecologic Oncology*. 3th ed., Philadelphia, PA: Lippincott, Williams, and Wilkins, 2000, 811–840
5. Allard JE, McBroom JW, Zahn CM, McLeod D, Maxwell GL. Vaginal metastasis and thrombocytopenia from renal cell carcinoma. *Gynecol Oncol.* 2004, 92(3): 970-973.
6. Milathianakis CN, Karamanolakis DK, Massoud WA, Roumier X, Bogdanos IM, Perrin P: Vaginal metastases from renal cell carcinoma. *Prog Urol* 2005, 15:319-321
7. Eng MK, Katz MH, Bernstein AJ, Shikanov S, Shalhav AL, Zorn KC. Laparoscopic port-site metastasis in urologic surgery. *Endourol.* 2008, 22(8):1581-1585.
8. Chuang XE, Loh HL, Sim HG, Fong KL, Tan MH. Papillary renal cell carcinoma with metastatic laparoscopic port site and vaginal involvement: a case report, *Journal of Medical Case Reports* 2011, 1(5):131
9. Martínez Ruiz J, Ruiz Mondéjar R, Carrión López P, Martínez Sanchiz C, Donate Moreno MJ, Pastor Navarro H, Perán Teruel M, Virseda Rodríguez JA. Vaginal metastasis of a clear renal cell carcinoma. *Arch Esp Urol.* 2011;64(4):380-383.