Vaginal bleeding as primary presentation of renal cell carcinoma

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Received: 11 July 2019 / Accepted: 26 December 2019 / Published online: 8 January 2020
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Abstract

Vaginal metastases from renal cell carcinoma has been recorded as extremely rare. We present a patient with vaginal bleeding as primary manifestation of renal cell carcinoma. A 40-year-old woman presented to a local private clinic with intermittent vaginal bleeding for approximately one month. Gynecological examination revealed a mass on the vaginal wall at approximately 8 o'clock. She underwent dilation and curettage (D&C) and mass excision. Microscopic histopathology and immunohistochemical stains showed vaginal metastases of clear cell RCC. The patient was referred to our urology clinic. Magnetic Resonance Imaging (MRI) of abdomen and pelvic showed a well-defined solid mass lesion measuring 16 × 12 × 11 cm in left kidney. Patient underwent left side radical nephrectomy through a left subcostal intraperitoneal incision. Histopathological results and metastasis workup confirmed the diagnosis of RCC with solitary metastatic vaginal lesion. After radical nephrectomy, she was treated with Sunitinib. No local relapse or distant metastasis was recognized 5 months after radical nephrectomy. In conclusion, the incidence of RCC metastasis to the vagina is extremely rare; but, in cases of vaginal bleeding or lesions we have to keep in mind the possibility of metastatic RCC.

Keywords Uterine hemorrhage · Renal cell carcinoma · Vaginal bleeding · Kidney

Introduction

Renal cell carcinoma (RCC) represents 3–5% of all adult malignancies worldwide, and accounts for 80% of cancers involving the kidneys [1]. The most common sites for distant metastasis are the lungs, liver, bones, and brain [2] and metastasis can be found at the time of initial diagnosis approximately in 18–33% of RCC cases [3, 4]. Vaginal metastases from renal cell carcinoma has been recorded as extremely rare. Based on our knowledge, less than ninety cases of RCC metastasis to vagina were reported in medical literature.

In this paper, we present a patient with vaginal bleeding as primary manifestation of renal cell carcinoma.

Case report

A 40-year-old woman presented to a local private clinic with intermittent vaginal bleeding for approximately one month. Her past medical history includes cesarean section 8 years ago. Gynecological examination revealed a mass on the vaginal wall at approximately 8 o'clock. She underwent dilation and curettage (D&C) and mass excision. Microscopic histopathology and immunohistochemical stains showed vaginal metastases of clear cell RCC.

The patient was referred to our urology clinic and she was admitted for further investigation. She lived in a village and she has not received regular health check. She reported no history of smoking or alcohol consumption. She had no personal or family history of any malignancy or any risk factors for developing RCC. On physical examination, the patient had normal vital sign. Physical examinations showed a palpable, non-tender mass in the left abdominal region and no other abnormalities were noted. The results of laboratory studies, including blood cells count, blood chemistry, and electrolytes, were within normal limits. Urine analysis showed microscopic hematuria. Magnetic Resonance Imaging (MRI) of abdomen and pelvic showed a well-defined solid mass lesion measuring 16 × 12 × 11 cm in left kidney

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Fig. 1 Magnetic Resonance Imaging (MRI) of abdomen and pelvic showed a well-defined solid mass lesion measuring 16 × 12 × 11 cm in left kidney

without renal vein thrombosis (Fig. 1). Patient underwent left side radical nephrectomy through a left subcostal intra-peritoneal incision (Fig. 2). The operation was uneventful and the patient was discharged after 4 days with no complications. Microscopic histopathology assessment showed papillary renal cell carcinoma (Fig. 3) invaded into ureter, perinephric fat and renal sinus. Vascular invasion was identified but adrenal gland was free of tumor. All margins were free of tumor. Metastatic workup revealed no other distant metastatic site in present case.

Clinical history, histopathological results and metastasis workup confirmed the diagnosis of T4N0M1 RCC with solitary metastatic vaginal lesion. No other metastatic lesion was noted. After radical nephrectomy, she was treated with Sunitinib. No local relapse or distant metastasis was recognized 3 months after radical nephrectomy.

Discussion

Renal malignancies representing the seventh most common cancer in male, and the tenth most common cancer in female, worldwide [1]. Renal cell carcinoma is the most common type of kidney cancer and is the second most common urologic neoplasm. Synchronous metastasis occurs in 18% of patients with RCC at the diagnosis and metachronous metastatic disease develop in 50% of RCC patients after nephrectomy [5]. RCC metastasis can occurred in any organ, most commonly the lung, lymph node, bone and liver [6]. Vaginal metastasis from RCC is a very rare event. Peham [7] reported the first case of vaginal metastasis from RCC in 1906, subsequently, less than 90 cases of vaginal metastasis of RCC were reported. In most of these cases, vaginal metastases were diagnosed as metachronous metastatic disease that discovered long term after radical nephrectomy. There are only three cases of synchronous vulvo-vaginal metastases from RCC in medical literature [4, 8, 9]. Two of them, RCC tumors were presented with other sign and symptoms except of vaginal bleeding and metastasis was discovered during workup. The interesting feature of our cases is that RCC initially presented with vaginal bleeding.

Previous studies showed that in the most cases of RCC with vaginal metastasis, primary location of tumor was left kidney and metastasis is solitary and is usually occurred at the lower third of the anterior wall of the vagina in the same side of primary tumor [10, 11]. Radiological investigation demonstrated that venous pathway is the dissemination route for vaginal metastasis in RCC cases and blood reflux

Fig. 2 Left side radical nephrectomy through a subcostal intraperitoneal incision

Fig. 3 Microscopic histopathology assessment showed papillary renal cell carcinoma

from renal vein to ovarian vein is the cause of the retrograde venous extension [12].

To date, various therapeutic approaches have failed to markedly improve survival in metastatic RCC cases. Previous studies have recommended multidisciplinary management including nephrectomy, metastatectomy and targeted therapy with Sunitinib [9]. Sunitinib, an oral multi-targeted tyrosine kinase inhibitor, is the standard treatment option in the first-line treatment of metastatic renal cell cancer [13].

In conclusion, we present a case of vaginal metastasis from RCC, that initial presentation was vaginal bleeding. The incidence of RCC metastasis to the vagina is extremely rare; but, in cases of vaginal bleeding or lesions we have to keep in mind the possibility of metastatic RCC.

Funding None.

Compliance with ethical standards

Conflict of interest Authors have no conflict of interest.

Ethical approval All procedures performed in present study were in accordance with the ethical standards of the ethical committee of Iran University of medical sciences and with the 1964 Helsinki Declaration.

Informed consent Informed consent was obtained from patient included in present study.

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