Case Report
JCAM

Synchronous Bilateral Adrenal Metastases from Papillary Renal Cell Carcinoma

Papiller Renal Hücreli Karsinomun Senkronize Bilateral Adrenal Metastazı

Bilateral Adrenal Metastases From Renal Cancer

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Özet

Renal hücreli karsinomun eş zamanlı bilateral adrenal metastazını saptadığımız olguyu sunuyoruz. Olguda renal kitle ve aynı taraftaki adrenal bez metastazı açık cerrahiyle en blok çıkartılırken kontrlateral adrenal metastazı için eş zamanlı olarak laparoskopik transperitoneal yaklaşım terci edilmiştir. Kliniğimize başvuran 54 yaşındaki erkek olguda preoperatif bilgisayarlı tomografide primer tümör böbreğin üst ve orta polüne lokalize olduğu izlendi. Kontrlateral metastatik adrenal tümör 65x 45 mm ve ipsilateral adrenal metastaz 140x 65 mm idi. Tetkikler sonrasında başka bir metastaz saptanmaması üzerine laparoskopik kontrlateral adrenalektomi ve ipsilateral açık nefroadrenalektomi eş zamanlı olarak uygulandı. Primer renal kitlelere bağlı eş zamanlı adrenal tutulum oldukça nadir görünmekte olup uygun cerrahi yaklaşım metastaz boyutlarına ve hastanın performans durumuna göre belirlenmelidir.

Anahtar Kelimeler

Laparoskopi; Adrenalektomi; Metastaz ; Renal Hücreli Kanser

Abstract

We report a case of synchronous bilateral adrenal metastasis of renal cell carcinoma. The contralateral metastatic adrenal mass was treated by the laparoscopic transperitoneal approach. The renal mass and its huge ipsilateral metastatic adrenal gland were removed en bloc with open procedure. A 54-year-old man presented to our clinic with left-sid renal cell carcinoma synchronously bilateral adrenal metastases. The primary tumor was localized in the upper-mid pole of the kidney. The diagnosis was established preoperatively by computed tomography. The size of the contralateral adrenal mass was 65 x 45 mm, but the ipsilateral metastatic adrenal mass was huge (140 x 65 mm). After all analysis and other scannings for any metastasis, a contralateral lapararoscopic transperitoneal adrenalectomy and a left open nephroadrenalectomy were performed simultaneously. Synchronous bilateral adrenal metastases from primary renal cell carcinoma without another metastasis is very rare. The optimal surgical procedure should be selected according to the metastatic adrenal masses size and the patient's status.

Keywords

Laparoscopy; Adrenalectomy; Metastasis; Renal Cell Carcinoma

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Introduction

Renal cell carcinoma (RCC) is the most common malignancy within the kidney at the rate of approximately 90% of all renal tumors. RCC has different subtypes with specific histopathological characteristics. This malignancy is more common in males than females (1.5:1) and the highest incidence is observed between the 6th and 7th decades [1]. Nearly 25% of RCC patients already have multiple distant metastases at the time of presentation. RCC can metastasize to every organ, but especially to the lungs, bones, and brain. The incidence of synchronous metastasis into the ipsilateral adrenal gland has been reported to be 2-10% [2]. Whereas metastasis of RCC to different sites is not uncommon, adrenal metastasis is synchronous in 2.7%, metachronous in 1.0%, ipsilateral in 1.9%, contralateral in 1.5%, and bilateral in 0.3% of patients [3].

We reported a case of laparoscopic transperitoneal contralateral metastatic adrenalectomy and concomitant open radical nephrectomy with adrenalectomy for a huge ipsilateral adrenal mass due to left RCC.

Case Report

A 54-year-old man presented to our clinic with complaint of left flank pain and sweating for 3 months. He had no past medical or surgical history. In his examination, a palpable lesion was found in the left abdominal side. The abdominopelvic computed tomography (CT) scanning revealed a 6 x 5 cm heterogeneous solid mass at the upper and mid pole of the left kidney and a huge metastatic ipsilateral adrenal mass and contralateral metastatic adrenal solid lesion on the right side (Figure 1).



Figure 1. Computed tomography scan demonstrated a renal mass in left upper-mid pole

Metastatic masses measuring 6.5 x 4.5 cm in the right adrenal gland and 14 x 6.5 cm in the left adrenal gland were detected (Figure 2). The results of blood and urine analysis were within normal range; therefore, the adrenal masses were considered to

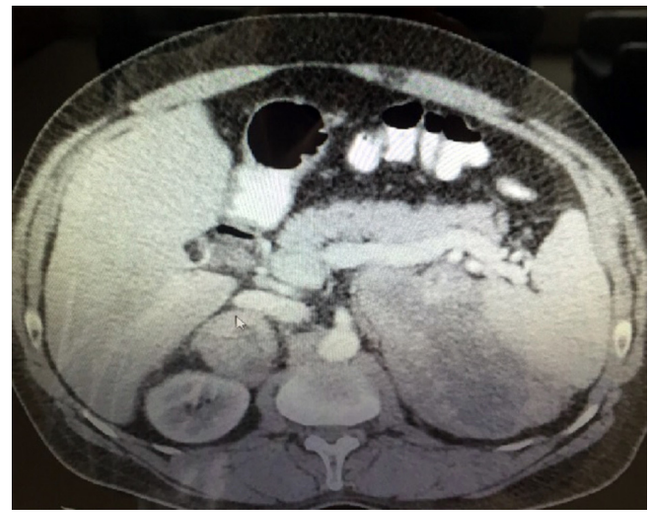


Figure 2. Huge metastatic adrenal mass in left side and contralateral right adrenal mass in CT

be hormonally inactive. A chest X-ray and thorax CT were negative for other organ metastasis. The patient was referred to the endocrinology department preoperatively in consideration of planning a bilateral adrenalectomy. As a result of endocrinological examination, glucocorticoid replacement therapy was administered following intraoperative term to reduce the risk of developing adrenal insufficiency.

Laparoscopic transperitoneal adrenalectomy (LTA) was performed in the right lateral decubitus position with three-trocar placement after pneumoperitoneum achievement. At the end of right LTA, the patient was repositioned in a supine position for high flank incision with resection of the distal third of the 11th rib to perform left radical nephrectomy with adrenalectomy. A lymphadenectomy was performed in the left side. All of the samples were removed through the left side incision (Figure 3).



Figure 3. Trocar placement in right side and high flank incision in left side

Total time of the operation was 160 minutes and the estimated blood loss during the operation was 250 ml. There were no intraoperative complications. The patient was discharged on the 5th postoperative day. Histopathological analysis showed papillary renal cell carcinoma in the left kidney, which metastasized in the bilateral adrenal glands. Four non-metastatic paraaortic lymph nodes from the left side were extracted in the sample. The pathological staging was type 2 papillary RCC,

Grade 4 and pT4N0M1 according to the TNM classification system (Figure-4).

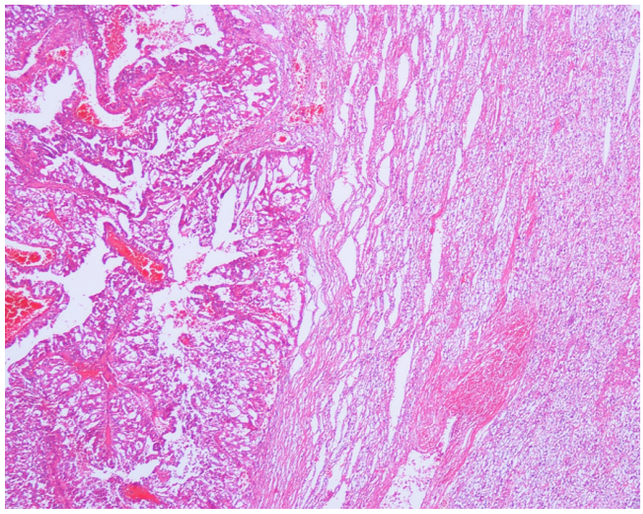


Figure 4. Histopathological section of papillary Type 2 RCC metastasis in the right adrenal gland. (H & E staining, 40x)

Discussion

RCC metastasize in both venous and lymphatic ways. Hematogenous invasion of the adrenal gland is more prevalent than the lymphogenous pathway due to the hypervascularity. The kidney and the adrenal gland on the left side have common vascular and lymphatic drainage. These predispose toward adrenal metastases and are usually observed on the left side. However, the pathway for contralateral adrenal metastases by RCC is still unknown [4]. There is a higher adrenal metastasis incidence in upper pole primary renal tumors compared to mid or lower pole tumors. Papillary renal cell carcinoma (pRCC) is the second most common (10-15%) histopathological subtype of RCC. There are two subtypes of pRCC, Type 1 and Type 2 (Type 2 30-40%) [1]. Type 2 pRCC has a worse prognosis than Type 1 pRCC. Five-year survival rates are 95% and 66% in Types 1 and 2 papillary tumors, respectively [5]. Contrary to conventional belief, some series report that prognosis of Type 2 pRCC was equivalent to or even worse than clear cell RCC. Patients with bilateral synchronous adrenal metastases from RCC should be considered for disseminated metastatic disease. There are a limited number of reports about bilateral adrenal metastases from RCC without other metastases.

Preliminary reports showed that the laparoscopic procedure was advantageous for extraction of tumors smaller than 7 cm in the adrenal gland [6]. However, laparoscopic surgery of adrenal tumors up to 15 cm has also been reported recently. There are two main approaches for laparoscopic adrenal surgery: transperitoneal and retroperitoneoscopic (posterior or lateral). In laparoscopic adrenalectomy, the transperitoneal approach was used for the first time and it is still the most popular technique because of the large space for working, greater visibility, and good instrument mobility [7]. In our case, the contralateral metastatic adrenal mass was measured as 6.5 x 4.5 cm in preoperative imaging and it was removed successfully by LTA. On the left side, the renal mass and its ipsilateral huge adrenal metastatic mass size was 21 cm longitudinally, so we performed a nephroadrenalectomy with open technique.

Conclusion

Patients with bilateral metastatic adrenal masses due to RCC may benefit from radical surgery. In our opinion, in cases of synchronous bilateral adrenal metastatic masses, laparoscopic or open adrenalectomy procedure should be selected depending on the size of the metastatic adrenal gland and the patient's condition.

Competing interests

The authors declare that they have no competing interests.

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