

CASE REPORT

Retroperitoneal bilateral laparoscopic adrenalectomy for metastasis of transitional cell carcinoma of the bladder

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ABSTRACT

We report a rare case of transitional cell carcinoma of the bladder metastasizing to bilateral adrenal glands without other metastasis. A 73-year-old male underwent radical cystoprostatectomy due to bladder cancer in 2006. Two years later, a CT scan showed a bilateral solitary adrenal tumor. Bilateral retroperitoneal laparoscopic adrenalectomy revealed metastatic transitional cell carcinoma. The patient has been doing well without evidence of recurrence, being supported by adrenocortical steroids. Although laparoscopic resection for malignant adrenal tumors is still controversial, we consider that retroperitoneal laparoscopic adrenalectomy may be an optional treatment for metastatic adrenal tumors, provided no other sites of metastasis exist.

Keywords: adrenalectomy, general surgery, laparoscopic, neoplasm metastasis, urinary bladder neoplasms.

INTRODUCTION

Metastatic tumors to the adrenal gland are more common than primary adrenal carcinoma. Hematogenous metastasis from bladder cancer occurs in adrenal glands in 21% of the cases. However, bilateral solitary adrenal metastases from transitional cell carcinoma (TCC) are very rare and only two cases have been reported to date^{1,2}. We report a case of bilateral solitary adrenal glands metastasis from bladder TCC and we discuss retroperitoneal laparoscopic adrenalectomy as a curative treatment option.

CASE REPORT

A 73-year-old male underwent open radical cystoprostatectomy coupled with en bloc pelvic lymphadenectomy and ileal conduit due to bladder cancer in 2006. Two years later, CT scan (Figure 1) showed a 4.0 cm solid tumor in the right adrenal gland and a 3.5 cm solid tumor in the left adrenal gland. Bilateral adrenalectomy was indicated but the partial resection was not considered due to the large dimensions of the tumor and the possibility of malignancy. Right retroperitoneal laparoscopic adrena-

lectomy revealed metastatic TCC (Figure 2A). Fifteen days after the second operation, because there was no apparent metastasis other than the adrenal gland, left retroperitoneal laparoscopic adrenalectomy was performed and the pathology showed metastatic adrenal TCC of grade 3 (Figure 2B). The patient has been doing well after adjuvant chemotherapy without evidence of recurrence, being supported by adrenocortical steroids. Computed tomography five years after cystectomy (three years after bilateral adrenalectomy) revealed no other site of metastasis.

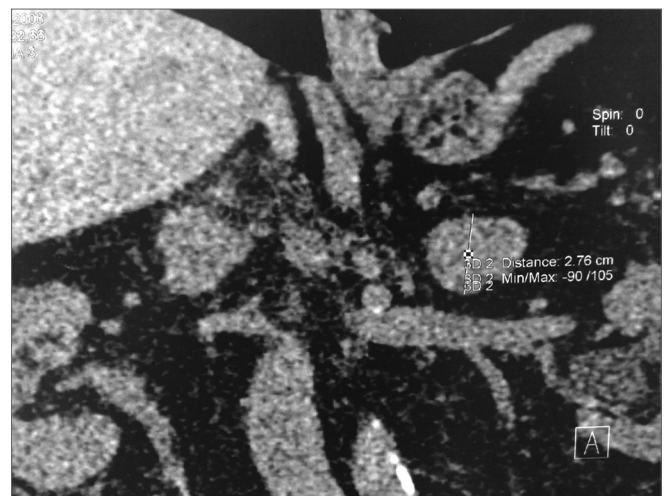


Figure 1. Preoperative CT scan at adrenalectomy showing left and right adrenal tumors.

COMMENTS

Bladder cancer usually spreads via the lymphatic and hematogenous routes. The most common sites of metastases of urinary bladder cancers are the regional

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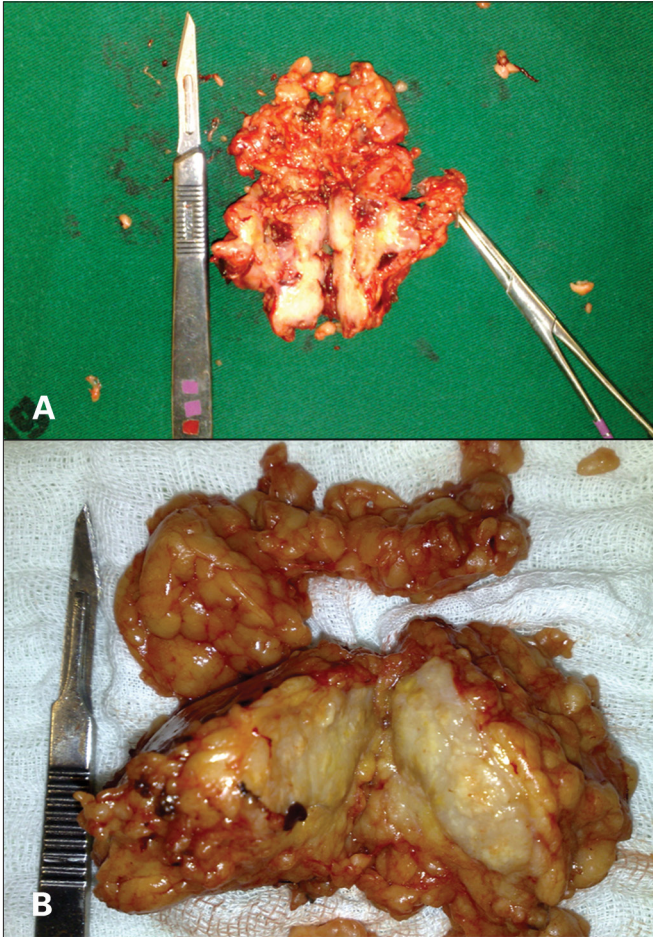


Figure 2. Tumor specimens: A: Right adrenal, and B: Left adrenal.

lymph nodes, liver, lung, bone, peritoneum, pleura, kidney, adrenal gland and intestines. Systemic cisplatin-based chemotherapy is the standard approach for patients with inoperable, locally advanced or metastatic disease, with average response rates of approximately 50-60%³. However, surgery for solitary metastasis of TCC as a curative treatment option should be considered. Bilateral solitary adrenal tumor is a rare presentation of metastatic bladder cancer. Luketich et al. have compared adrenalectomy with chemotherapy in the setting of a single adrenal metastasis and found significant longer survival times for the surgical group⁴. Nevertheless, few studies have been done on laparoscopic adrenalectomy for solitary adrenal metastasis. No studies have compared open versus laparoscopic resection of solitary adrenal metastasis, because it is difficult to recruit patients. Moreover, no prospective randomized studies have been done demonstrating that

resection of solitary adrenal metastasis increases patient survival. Laparoscopic adrenalectomy for isolated metastases is feasible and well-selected patients may benefit from the minimally invasive approach. However, because of the high risk of positive margins, this procedure should only be done by expert laparoscopists. Retroperitoneal laparoscopic adrenalectomy offers direct access to the retroperitoneal cavity and is a reliable and attractive technique in patients with previous abdominal surgery⁵. Partial adrenalectomy can be performed in bilateral benign tumors and family syndromes such as Von Hippel-Lindau disease. Partial resection could preserve adrenal function in patients with adrenal masses, especially in cases with bilateral solitary adrenal tumors, thereby avoiding the morbidity associated with medical adrenal replacement⁶. However, this was not possible in this patient due to the large dimensions of the metastasis and increased risk of positive margins. Metastasectomy for solitary metastasis of TCC of the bladder, especially when integrated with chemotherapy, is a treatment option that may contribute to long-term disease control.

CONCLUSION

Although laparoscopic resection for malignant adrenal tumors is still controversial, we consider that retroperitoneal laparoscopic adrenalectomy with adjuvant chemotherapy may be an optional treatment for metastatic adrenal tumors from TCC with no other site of metastasis. Retroperitoneal laparoscopic adrenalectomy offers an attractive access especially after previous open radical cystectomy.

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