



Solitary Metachronus Contralateral Adrenal Metastasis from Renal Cell Carcinoma

Suraci A¹, Suraci N²

1. MD. Division of Urology, Berwick Hospital, 59, 701 E 16th St, Berwick, PA 18603
2. MD. Division of Urology, Berwick Hospital, 27, 701 E 16th St, Berwick, PA 18603

Publication History

Received: 28 May 2016

Accepted: 19 June 2016

Published: 1 July 2016

Citation

Suraci A, Suraci N. Solitary Metachronus Contralateral Adrenal Metastasis from Renal Cell Carcinoma. *Medical Science*, 2016, 20(80), 158-160

Publication License



This work is licensed under a Creative Commons Attribution 4.0 International License.

General Note



Article is recommended to print in recycled paper.

ABSTRACT

We present a case of solitary contralateralmetachronus adrenal metasisis five years after radical nephrectomy. The patient underwent laparoscopicadrenalectomy for primary renal cell carcinoma of the kidney for renal cell carcinoma. The patient was then treated with steroid replacement. The patient was in remission for six years until death from unrelated cardiovascular collapse. Subsequently, the patient was found to have metachronous contralateral adrenal metastasis from the initial renal cell carcinoma. Metachronus renal cell carcinomas are rare, but can be treated and cured aggressively with surgery when detected early on in its progression. Our aim is to raise awareness of this occurrence and further support literature of this condition.

Keywords: Metachronus, Renal Cell Carcinoma, Adrenal, Metastasis

Abbreviations: CAT scan: Computed Axial Tomography

1. INTRODUCTION

At the time of surgery for renal cell carcinoma, up to 25-30% of the patients may already have metastasis (Fuselier et al, 1983; Hadju and Thomas, 1967; Middleton, 1967; Rafia, 1970; Kessler et al, 1998). The most common sites of metastasis are lung, lymph nodes,

Ipsilateral:

Relating to the same side of the body of which a condition of structure occurs.

liver, contralateral kidney and bone (Bennington and Beckwith, 1983; Winter et al, 1990). 4-10 % of these will be to the ipsilateral adrenal (Robey and Schellhammer, 1986; Sagalowsky et al, 1994; Mesurolle et al, 1997). Less than 1 % will involve the contralateral adrenal (Kessler et al, 1998). We present a case involving a patient who underwent a right radical nephrectomy with ipsilateraladrenalectomy and presented with a contralateral adrenal metastasis five years later.

2. CASE REPORT

A 75 year-old male presented with gross hematuria for two weeks. The patient had a CAT scan that identified a 4.5 cm inferiomedial right renal tumor with no evidence of local or distant metastases. Subsequently, the patient underwent a transabdominal right radical nephrectomy with an ipsilateraladrenalectomy. Pathology revealed a grade two renal cell carcinoma that was confined to the capsule, with no perinephric fat, renal vein or pelvis involvement and no evidence of ipsilateral adrenal involvement. The patient was followed with serial CAT scans for two years, chest x rays and liver function studies periodically for four years. Follow up CAT scan was performed on the fifth year for workup of a kidney stone revealing a six cm adrenal lesion. A metastatic work up was started with chest x-rays, CAT scans, bone scan as well as a primary adrenal tumor panel. Work up was negative for any primary adrenal tumors or other metastatic lesions other than the adrenal. Percutaneous biopsies of the adrenal mass were performed but were inconclusive. Laparoscopic adrenalectomy was then performed. This revealed metastatic renal cell carcinoma grade two. He was started on steroid replacements and tolerated them well with no complications. The patient was then followed for five years and remained tumor free. He subsequently died on the sixth year of a cardiac event unrelated to the primarycarcinoma in origin.

Metastasis:

Spread of a cancer or other disease from one organ to another not directly connected to it.

Contralateral:

Relating to the side of the body opposite of which a condition or structure occurs.

CAT Scan:

Speciali X ray tests that produce cross-sectional iages of the body using x-rays and a computer.

3. DISCUSSION

At the time of radical nephrectomy, the incidence of ipsilateral metastasis is about 4-10%.At autopsy, patients with a history of renal cell carcinoma may have as high as 20% and 10% metastasis for ipsilateral and contralateral tumors respectfully (Huisman and Sands, 1991; Hellsten and Linell, 1983).

The risk of ipsilateral tumor spread is highest in tumors that are upper pole and larger than seven centimeters or staged t3 or greater(Sagalowsky et al, 1994; Gill et all, 1994). As a consequence, it has been suggested that routine ipsilateraladrenalectomy be considered for lesions greater than four centimeters (Von Knowlish et al, 2000; Antonelli et all 2006). The contralateral lesions that presentclinically represent less than 1% of the metastases (Hellsten and Linell 1994).Left sided contralateral metastasis are seen more frequently than right sided (Ito et al, 2002). This may be due to left adrenal vein drainage into the left renal vein (Huisman and Sands, 1991; Huisman and Sands, 1991). It has been reported that 71% of the patients with contralateral adrenal lesions had ipsilateral lesions prior to or concomitantly (Von Knoblish, 2000). The use of noninvasive modalities such as cat scanners and MRIs has made it more efficient to pick up metachronous contralateral lesions. These modalities, which are used more freely for general work ups for numerous problems, pick up these incidentalomas. These incedentalomas usually present as solitary lesions with no elevation of adrenocortical hormones. The radiological finding from CAT scans or MRI usually show a more vascular tumor compared to the more hypo vascular adrenal adenoma or carcinoma. Biopsy or fine needle aspirations may show the identity of the lesion but may be inadequate to secure diagnosis. Surgical excision is usually needed for the diagnosis and therapy (Dechet et al, 2003; Lau et al, 2003).

A review of the literature has reported contralateral adrenal metastases up to twenty-eight years later (Huisman and Sands, 1991; Lemmers et al 1989; Bloom et al 1981). Overall, the five year survival for metastatic renal cell carcinoma is better for those that present with metastases greater than eighteen months after nephrectomy (Turini et al, 1988). Why this group of patients that survive longer is unclear. The immune mechanisms that may be activated by the debulking may inhibit and regulate microscopic disease. There may be a group of patients with a slow growing cancer that is not very aggressive and present later. Patients with limited or solitary metastasis that undergo resection may have prolonged survival, some greater than five years (Stein et al, 1997). Excision of the localized adrenal metastasis may offer the patient the better chance of survival. This is better that the 5% 5-year survival with diffuse metastatic disease. Kessler et al noted that patients diagnosed with adrenal metastases greater than eighteen months after nephrectomy had a prognosis that was better than those with a shorter interval to diagnosis (Kessler et al, 1998). The use of chemotherapy, hormonal agents and radiotherapy has failed to improve long-term survival. The current use of conventional immunotherapy has not improved the 5-year survival. Removal of the remaining adrenal gland may pose a problem to the elderly

more than the younger patients with postoperative adrenal insufficiency and long-term adrenal replacement therapy compliance (O'roiradain et al, 1994). With the wide spread use of laparoscopic cytoreductive therapy, the benefits of surgery may improve survival and decrease morbidity (Elashry et al, 1997).

4. CONCLUSION

This report presents a case of late metastasis of renal cell carcinoma that was incidentally found. It is to raise attention that this is a rare occurrence that should gain further awareness. When identified, cure rates are high. We do not propose change to current protocol guidelines, but rather an awareness of occurrence and further support literature.

SUMMARY OF RESEARCH

This report aims to support the literature for appearance of renal cell carcinoma post-surgically.

DISCLOSURE STATEMENT

There is no special financial support for this case report from any funding agency or conflicts of interest.

REFERENCES

- Antonelli A, Cozzoli A, Simeone C, Zani D, Zanotelli T, Portesi E and Cunico S. Surgical treatment of adrenal metastasis from renal cell carcinoma: a single -centre experience of 45 patients. *BJU Intern*.2006; 97: 505-508.
- Bennington JL and Beckwith JB. Renal adenocarcinoma in: Tumors of the kidney, renal pelvis and ureter. Fasc.12 Washington, DC Armed Forces Institute of Pathology. 1983 pp 168-169.
- Bloom DA, Kaufman JJ, and Slith RB. Late recurrence of renal tubular carcinoma *J Urol*.1981; 126: 546.
- Dechet CW, Zincke H, Sebo TJ. Prospective analysis of computerized tomography and needle biopsy with permanent sectioning to determine the nature of solid renal masses in adults *J Urol*.2003; 169: 71-74.
- Elashry OM, Clayman RV, Soble JJ and McDougall EM. Laparoscopic adrenalectomy for solitarmetachronous contralateral adrenal metastasis from renal cell carcinoma, *J Urol*.1997; 157: 1217-22.
- Fuselier HA Jr, Guice SL III, Brannan W, Achner MG, Sangisetty KV, Beckman EN, Barnes CA and Guice SL: Renal cell carcinoma: the Ochsner Medical Institute experience. *J Urol*. 1983; 130:445-448.
- Gill IS, McClennan BL, Kerbl : Adrenal involvement from renal cell carcinoma: Predictive value of computerized tomography. *J Urol*.1994;152: 1082-1085.
- Hajdu S and Thomas AG: Renal cell carcinoma at autopsy *J Urol*. 1967;97:978-982..
- Hellsten S Berge T and Linell F: Clinically unrecognized renal carcinoma: aspects of tumor morphology, lymphatic and haematogenous metastatic spread. *Br J Urol*.1983; 55:166-70.
- Huisman T and Sands JP: Renal cell carcinoma with solitary metachronous contralateral adrenal metastasis. *Urol*.1991;38: 364-368.
- Huisman TH, and Sands JP. Renal cell carcinoma with solitary metachronouscontralateral adrenal metastasis Experience with two cases and review of the literature *Urol* 38: 364. 1991
- Ito A, Satoh M, Ohyama C, Saito S, Shintaku I, Nakano O, Aoki H ,Hoshi S, and Orikasa S. Adrenal metastasis from renal cell carcinoma: Significance of adrenalectomy. *Inter J Urol*.2002;9: 125-128.
- Kessler OJ, MukamelE, WeinsteinR, Gayer E, Konichezky M, and ServadioC: Metachronous renal cell carcinoma metastasis to the contralateral adrenal gland . *Urol*.1998; 51:539-543.
- Lau WK, Zincke H, Lohse CM, Cheville JC, Weaver AL, and Blute MI. Contralateral adrenal metastasis of renal cell carcinoma: treatment, outcome and a review. *BJU Inter*.2003; 775-779.
- Lemmers M, Ward,K, Hatch T, and Stenzel P. Renal adenocarcinoma with solitary metastasis to the contralateral adrenal gland: report of two cases and review of the literature. *J Urol*.1989;141: 1177.
- Mesurolle B, Mignon F, Travagli JP, MeinganPh and VanelD: Late presentation of solitary metastasis of renal cell carcinoma. *Eur Rad*.1997; 7: 557-558.
- Middleton RG: Surgery for renal cell carcinoma *J Urol*. 1967; 97 973-977.
- O'Roiradain DS, Farley DR, Young WF, Grant CS, and van Heerden JA. Long-term outcome of bilateral adrenalectomy in patients with Cushing's syndrome. *Surgery*.1994; 116:1088-1094.
- RafilaS : Renal cell carcinoma. Natural history and results of treatment. *Cancer*.1970; 25:26-40.
- Robey EL, Schellhammer PF: The adrenal; gland and renal cell carcinoma: Isipsilateraladrenalectomy a necessary component of radical nephrectomy? *J Urol*.1986;135:453
- Sagalowsky AI, Kadesky KT, Ewalt DM, Kennedy TJ: Factors influencing adrenal metastasis in renal cell carcinoma. *J Urol* 151: 1181
- Stein A, Mecz Y, Sova Y, Lurie M and Lurie A. Synchronous and metachronous contralateral adrenal metastases from primary renal cell carcinoma, *Urol Int*.1997; 58: 58-60.
- Turini D, Barbanti G, Beneforti P, Misuri D and Mauro F. Biological, diagnostic and therapeutic aspects of a case of renal cell carcinoma occuring with bladder and contralateral adrenal metastasis. *UrolInt* .1988;43: 293-296.
- Von Knoblich R, Hegele A, Kalble T and Hofmann R. Management of contralateral adrenal metastasis from renal cell carcinoma: Possibility of inferior vena cava tumor thrombus. *Scand J Urol Nephrol*.2000; 34: 109-113
- Winter P, Miersh WD, Vogel J and JeagerN. On the necessity of adrenal extirpation combined with radical nephrectomy *J Urol*.1990; 144: 842-844.