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INTERLEUKIN-2-BASED THERAPY FOLLOWING SURGERY FOR RENAL CELL CARCINOMA METASTATIC TO THE CHEST WALL

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Herein, the authors report two cases of renal cell carcinoma with solitary metastasis to the chest wall. Interleukin-2-based therapy following nephrectomy and resection of the metastatic lesion of the chest wall resulted in improvement of quality of life and in prolonged disease-free survival in all patients. They believe that an aggressive surgical approach, in selected patients with metastatic renal cell carcinoma, may improve patients' response to immunotherapy.

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Introduction

Since the introduction of interleukin-2 (IL-2), multiple trials have reported good response rates in patients with metastatic renal cell carcinoma¹⁻³ and cytoreductive surgery has become part of a strategy to improve patients' response to immunotherapy^{2,3}. Herein, we report our experience in the treatment of two patients with renal cell carcinoma metastatic to the chest wall.

Case reports

Case 1. A 62 years-old man was admitted to our Department for a painful swelling of the chest wall of 5 cm in diameter that had increased in size during the last two months. Two years before, he underwent a left radical nephrectomy

for renal cell carcinoma (T2 N1 M0) followed by chemotherapy (vinblastine). Chest X-ray and computed tomographic scan of the chest (Fig. 1) confirmed the presence of a well-demarcated mass arising from the anterior portion of the fourth left rib. The patient underwent anterior thoracotomy and a radical excision of the anterior segment of the rib and adjacent tissues was easily carried out. The underlying visceral pleura was slightly adherent to the tumor. Chest wall defect was closed primarily. Microscopic examination revealed a histological picture totally comparable with the resected renal carcinoma. Postoperative course was uneventful and the patient then underwent immunotherapy (IL-2 4.5x10⁶/m² intravenously every 8 hours for two 5-days courses plus infusions of lymphokine-activated killer [LAK] cells). He remains well without any signs of recurrent or metastatic disease after 2 years of follow-up.

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Case 2. A 71-year-old man presented to us for a painful, solid mass of the chest wall that had increased in size during the last three months (Fig. 2). He also noted intermittent haematuria of 2-weeks' duration. CT confirmed the presence

of a 4 cm well-demarcated lesion arising from the third right rib and showed a lesion of 9 cm in diameter of the right kidney. The patient underwent a right radical nephrectomy through a midline abdominal incision. Microscopic

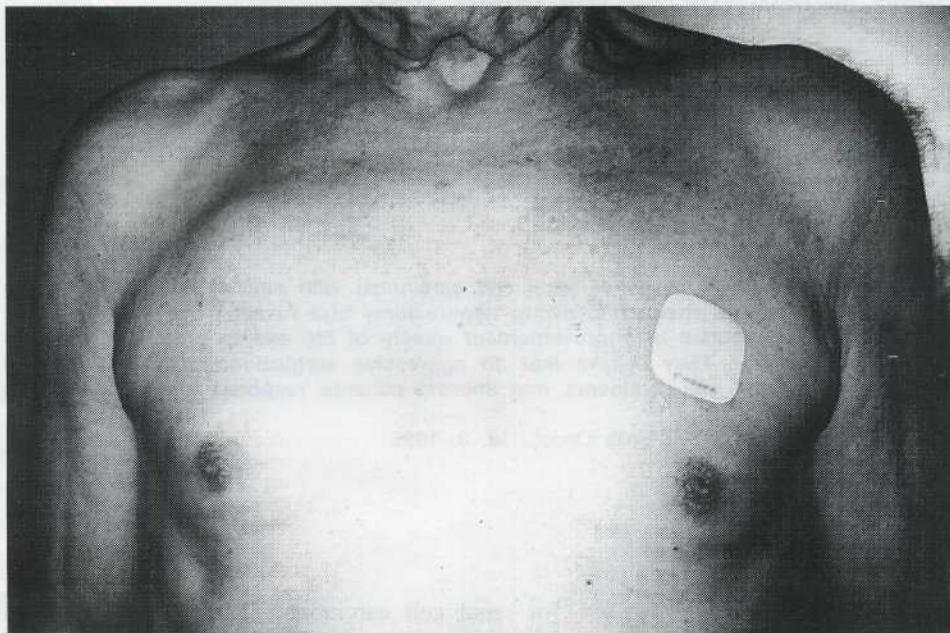


Fig. 1.
CT scan of the chest showing a mass of the anterior chest wall.

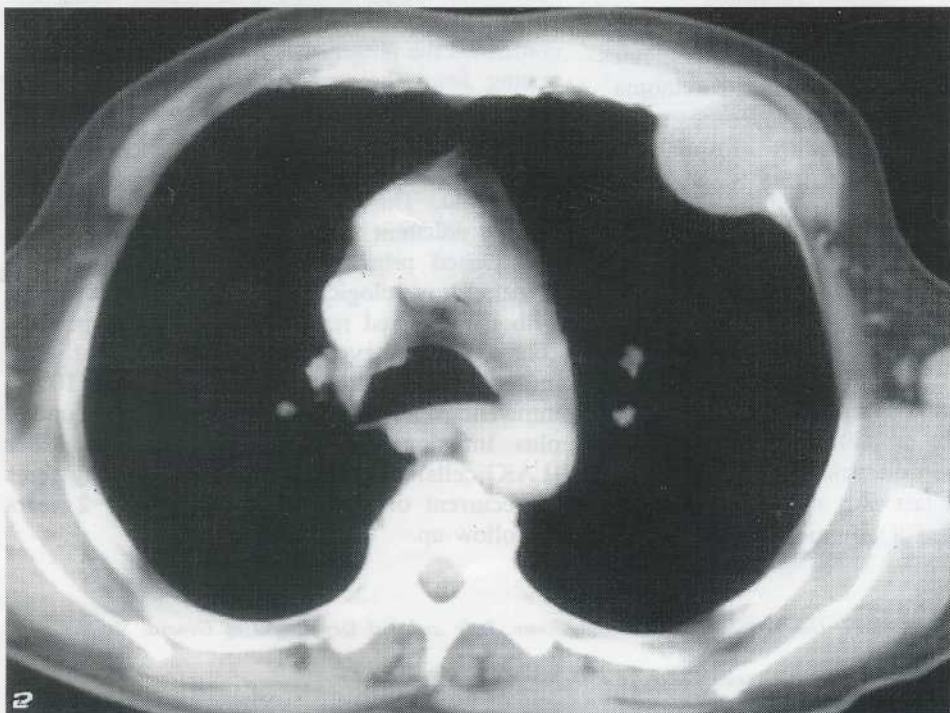


Fig. 2.
Preoperative photograph showing a swelling of the right anterior chest wall and the presence of the post-nephrectomy surgical scar.

examination revealed the lesion to be a renal cell carcinoma (T3a N0). Twenty-five days later, he underwent an anterior thoracotomy and the mass originating from the third rib was radically removed. Chest wall defect was closed primarily. Histopathological examination confirmed the metastatic nature of the tumor. Postoperative course was unremarkable and immunotherapy (human recombinant IL-2 subcutaneously 9×10^6 IU every 12 hours for 2 days followed by 3×10^6 IU twice daily for 5 days/week for 6 weeks plus interferon-alpha 2b subcutaneously at a dose of 5×10^6 U/m² thrice weekly) was started. He remains well and without sign of recurrent disease 1 year and 10 months after rib resection.

Discussion

The premise that surgery can ameliorate the natural course of a systemic disease has never been proven scientifically. Because tumors originating from the chest wall tend to infiltrate the external layers and involve the underlying lung, even in the case of metastatic disease, chest wall resection still remains an important element of thoracic tumor surgery⁴. Although such an extensive surgical treatment can improve quality of life, effective adjuvant therapy is necessary to achieve a prolongation of life in this difficult cohort of patients. Several studies¹⁻³ reported the dramatic response of patients with advanced renal cell carcinoma following administration of interleukin-2. The observation of durable survival following surgical resection of primary tumor and isolated metastases, even after partial response to IL-2³, confirmed the effectiveness of this aggressive approach in well selected patients with

metastatic disease. A prospective study would be required to define the role of debulking in immunotherapy, however, in accordance with other authors^{2,3} we believe that an aggressive surgical treatment, resecting viable nests of tumor refractory to IL-2-based therapy, may enhance responses to adjuvant or neoadjuvant IL-2-based therapy.

RIASSUNTO

TRATTAMENTO CON INTERLEUCHINA-2 DOPO ASPORTAZIONE DI METASTASI DELLA PARETE TORACICA DA CARCINOMA RENALE

Gli autori descrivono due casi di adenocarcinoma renale associato a metastasi solitaria della parete toracica. La resezione chirurgica della lesione primitiva e di quella metastatica seguita dall'immunoterapia con interleuchina-2 più o meno interferon ha fornito buoni risultati migliorando sia la qualità della vita che la sopravvivenza libera da malattia. Gli autori ritengono che, in pazienti selezionati, l'eresi chirurgica possa migliorare la risposta all'immunoterapia nel trattamento dell'adenocarcinoma renale metastatico.

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