The role of embolization in the management of tumour recurrence after radical nephrectomy

Introduction

This article presents the case of a 56-year-old woman who developed a tumour recurrence following radical nephrectomy. This was invading the descending colon and causing severe gastrointestinal haemorrhage. Angiography revealed neovascularization from T11 and T12 intercostal arteries, which were successfully embolized percutaneously.

Conclusions

Percutaneous embolization is well established in the management of primary renal cell carcinoma in patients with advanced disease, those unfit for surgery, and in the management of associated haematuria (Nurmi et al, 1987; Hom et al, 1999; Munro et al, 2003). Embolization is also effective in the management of bleeding from tumour recurrences following radical nephrectomy and to the authors' knowledge this is the first such report. BJHM

Hom D, Eiley D, Lumerman JH, Siegel DN, Goldfischer ER, Smith AD (1999) Complete renal embolization as an alternative to nephrectomy. *J Urol* **161**(1): 24–7

Munro NP, Woodhams S, Nawrocki JD, Fetcher MS, Thomas PJ (2003) The role of transarterial embolization in the treatment of renal cell carcinoma. *BJU Int* **92**(3): 240–4

Nurmi M, Satokari K, Puntala P (1987) Renal artery embolization in the palliative treatment of renal adenocarcinoma. *Scand J Urol Nephrol* **21:** 93–6

Figure 1. Pre- embolization image demonstrating vascular supply to left renal bed tumour recurrence from T12 intercostal artery.

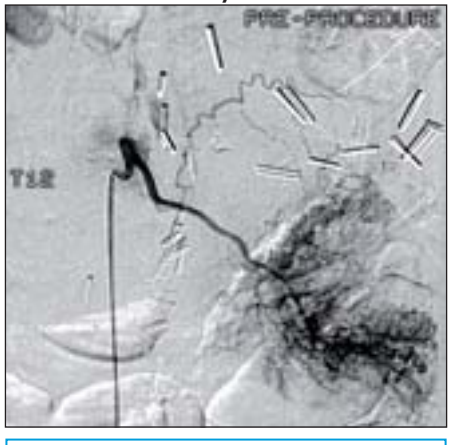

Figure 2. Appearance following embolization of T12 intercostal artery.

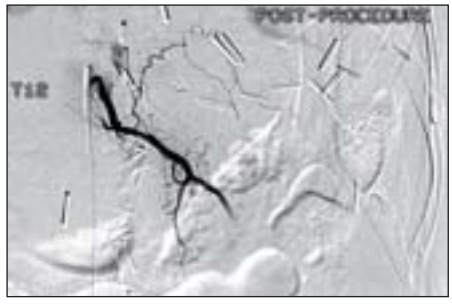

Figure 3. Opened specimen showing tumour invading descending colon, with surface slough secondary to embolization.

Case Report

A 56-year-old Caucasian female underwent left thoraco-abdominal radical nephrectomy with excision of the regional lymph nodes for a 10 x 11 cm mass in the upper pole of the left kidney. Histology confirmed a Fuhrman grade 4 clear cell renal carcinoma, pT2 NoMx, with microscopic venous invasion. All 11 lymph nodes were negative for metastatic disease as were the staging scans.

A follow up computed tomography scan at 3 months revealed bilateral small pulmonary metastases with no evidence of renal bed recurrence. Bone scan was also negative. However, a further computed tomography scan 6 months after the nephrectomy demonstrated a 3.8 x 2.6 cm mass in the left renal bed with enlargement of the left gastric lymph nodes. In addition, there was a mass in the fundus of the stomach and the size of the pulmonary lesions had increased. The patient therefore started three cycles of chemotherapy (interferon-alpha, interleukin-2 and 5-fluorouracil, experimental arm of the MRC RE04 protocol) with an excellent response seen on subsequent imaging with complete resolution of the renal bed mass.

A repeat computed tomography scan 16 months after surgery showed significant disease progression with a 6 x 7 cm mass in the left renal bed. The patient was admitted to hospital soon after this with a haemoglobin of 6.0 g/dl following several episodes of fresh rectal bleeding, requiring a 7-unit blood transfusion.

Colonoscopy revealed a polypoid tumour in the proximal descending colon which was felt to be extrinsic in origin. Angiography revealed a number of sources of blood supply to the retroperitoneal mass, the largest from the T11 and T12 intercostal vessels (*Figure 1*). These were embolized satisfactorily with no further bleeding (*Figure 2*). The patient subsequently underwent a resection of the renal bed mass and a left hemicolectomy (*Figure 3*).

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