Laparoscopically Resected Ureteric Pseudotumour in a Female Patient

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Citation

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Abstract

A 31 year old female presented with left ureteric obstruction in the absence of any detectable stones. She was discovered to have a distal ureteric mass. This was successfully resected laparoscopically and the ureter re-implanted with a psoas hitch vesicoplasty. The resected specimen was confirmed to be an inflammatory myofibroblastic pseudotumour. To the authors' knowledge this is the first description of this condition in a female patient and the first to be resected laparoscopically.

CASE REPORT

A 31 year old female presented with left renal colic, intravenous Urogram (IVU) showed left ureteric obstruction. A subsequent non-contrast computed tomographic scan (CT) of kidneys, ureter and bladder was performed; no stone was demonstrated on this scan, serum creatinine was 94mg/l (calculated creatinine clearance 85ml/min).The following day cystoscopy revealed a large mass projecting into the bladder from the distal ureter. Following an unsuccessful attempt at retrograde stenting, left percutaneous nephrostomy was performed. A nephrostogram demonstrated distal ureteric obstruction but no stone; subsequent to which an antegrade ureteric stent was inserted.

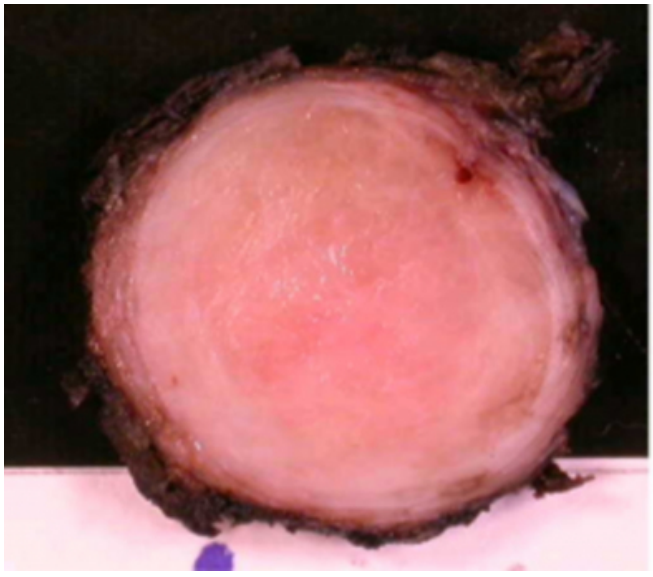
Repeat cystoscopy was performed with biopsy of the ureteric mass; these samples were reported as benign. DMSA scan revealed that the left kidney provided 23% of the renal function.

Laparoscopic excision of the ureteric tumour and ureteroneocystostomy was performed. The stented left ureter was mobilised to the vesico-ureteric junction and a flexible cystoscope used to allow simultaneous visualisation of the intra and extra-vesical aspects of the tumour. The bladder wall was incised using an ultrasonic dissector to circumscribe the tumour. The bladder wall defect was closed with interrupted 3/0 Vicryl (Ethicon, USA) and psoas hitch vesicoplasty performed to approximate the bladder and left ureter. After excision of the distal ureter surrounding the tumour, the remaining ureter was spatulated and anastomosed to the dome of the bladder. The procedure was uncomplicated with the patient discharged home on the second post-operative day.

The pathological specimen consisted of 60mm of ureter, including the tumour. The tumour was approximately 30mm in diameter, and 50mm in length; it showed a firm, white, whorled cut surface with no lumen and had been completely excised (Fig. 1).

Figure 1

Figure 1: Macroscopic appearance

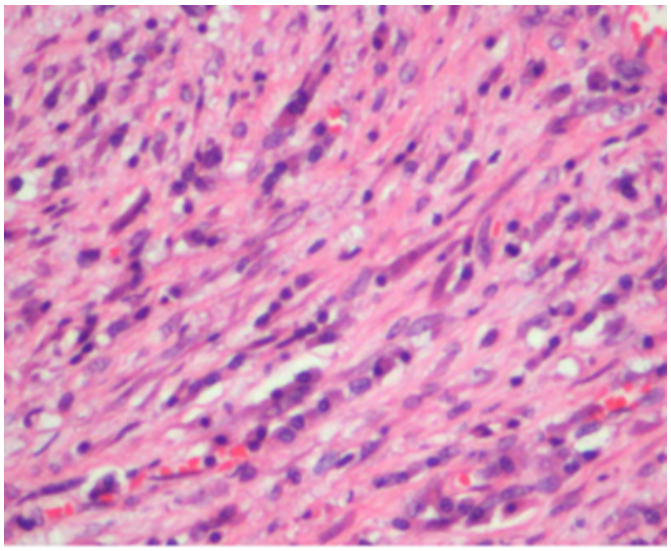


Microscopic examination (Fig. 2) revealed a circumscribed proliferation of bland spindle-shaped cells arranged in a fascicular and storiform pattern with hyalinised fibrosis. There was a lymphoplasmacytic infiltrate rich in plasma

cells, with scattered eosinophils. There was no pronounced cytological atypia, only occasional larger nuclei and mitotic figures. The ureteric lumen was compressed and pushed to one side; the urothelium was atrophic but non-dysplastic.

Figure 2

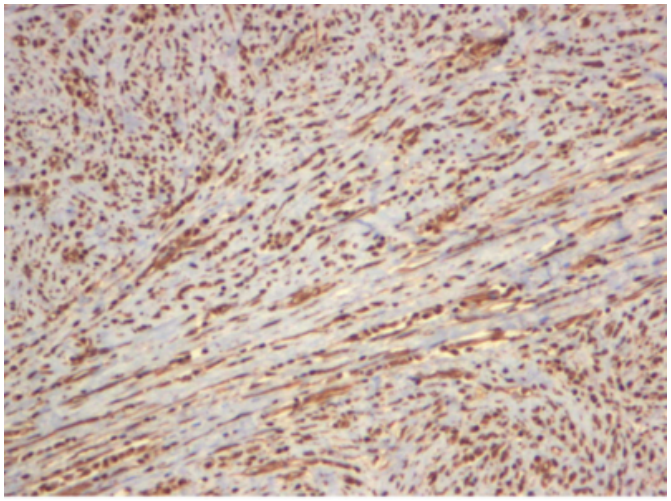
Figure 2: Haematoxylin and Eosin staining



On immunohistochemistry, the cells stained strongly for vimentin (Fig. 3) and focally for smooth muscle actin and CD68. They did not stain for S100, pancytokeratin (MNF116), desmin, H-caldesmon, calponin, CD117, HMB45 and for Alk-1. Zielh-Neelsen special stain showed no evidence of acid fast bacilli.

Figure 3

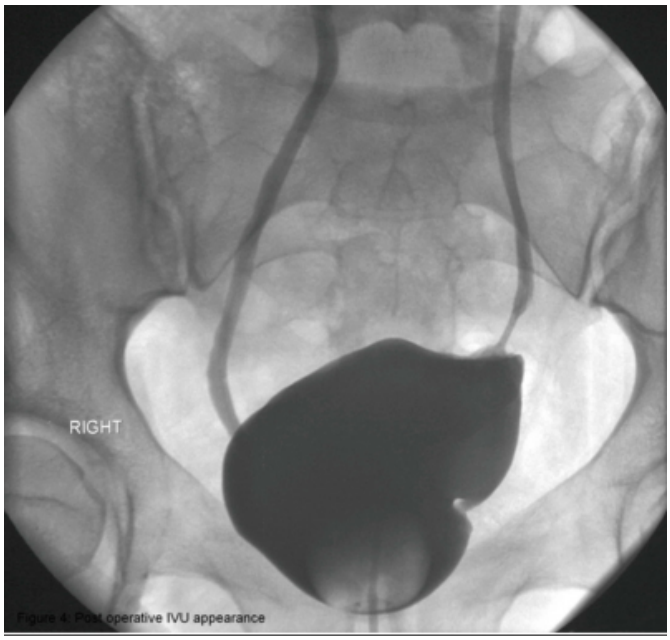
Figure 3: Staining for Vimentin



The diagnosis of inflammatory myofibroblastic tumour was made; these tumours are rare benign lesions derived from Spindle cells. Follow-up intravenous urography revealed rapid drainage of the left kidney into the reimplanted ureter (Fig. 4).

Figure 4

Figure 4



DISCUSSION

Inflammatory myofibroblastic tumour was first described in the lung [1]. There have been many other locations described [2]. There are only three other descriptions in the English-language literature of a myofibroblastic tumour in the ureter [3,4,5].

In the two cases presenting in adult males, both proceeded to nephro-ureterectomy. Although malignant transformation has rarely been seen in lung lesions [6] previous urinary tract cases have shown no evidence of recurrence following resection after mean follow up of 25 months. Surgical excision has been advocated as curative treatment with careful histological and possibly immunohistochemical examination to avoid unnecessary radical surgery [4].

Histologically myofibroblasts with an inflammatory infiltrate predominate [3]. Almost all stain for vimentin and smooth muscle actin. Unlike this example almost 30% are reported to stain positively for Desmin and S-100 [4]. They are proposed to arise reactively after chronic inflammation or after surgical intervention [4]. Both situations are apparent in this case.

This is the first description of a ureteric myofibroblastic tumour in a female patient and the first to the authors' knowledge to have been resected laparoscopically. Although

the relative function of the affected renal unit was only 23% in this case, given the youth of the patient, it was felt that laparoscopic local excision of the tumour with reconstruction was the optimum treatment. The patient remains well with a current creatinine clearance of 88 ml/min.

This is an extremely rare condition and a novel treatment modality for this condition has in this case prevented an unnecessary nephro-ureterectomy.

ACKNOWLEDGMENTS

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