Immunohistochemical characterization of primary urinary bladder endometriosis

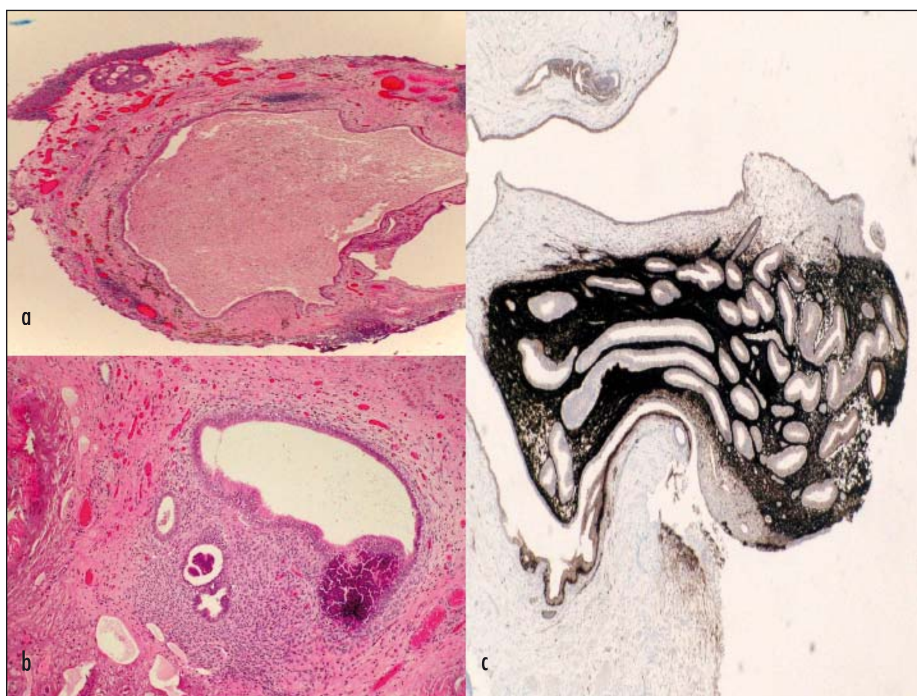
Introduction

Endometriosis of the urinary bladder is being increasingly recognized and reported (Vercellini et al, 1996; Fedele et al, 1998). The aetiopathogenesis of this entity remains unclear. Various mechanisms of disease have been proposed including peritoneal implantation, extension of adenomyosis from uterine wall or metaplasia of mullerian remnants (Fedele et al, 2005).

Clinically, it presents with non-specific lower urinary tract symptoms, particularly exaggerated at the time of menstruation. Occasionally, haematuria is the presenting symptom. Although segmental excision of urinary bladder either by open or laparoscopic techniques has been reported, the role of initial transurethral resection remains unclear. The fears of complications such as bladder perforation, incomplete resection and haemorrhage have been mentioned as possible contraindications to this approach. However, if carefully undertaken, especially with the aid of improved endoscopic vision, this can potentially relieve symptoms in many women.

This article highlights the role of aggressive transurethral resection in the management of primary urinary bladder endometriosis. This could be offered as an initial treatment option in all patients before considering more invasive treatment. Moreover, CD10 immunohistochemistry, as carried out in this case, could be proposed as a diagnostic test to discriminate urinary bladder endometriosis from other mimickers.

Figure 1. a. Low power view showing normal urothelium overlying cystically dilated glands and areas containing haemosiderin-laden macrophages within the lamina propria. b. High power view illustrating glands lined by columnar epithelium and surrounded by a condensation of stromal cells. c. Strong positive staining of stromal cells with CD10 antibody.



Case Report

A 38-year-old woman presented with persistent lower urinary tract symptoms, mainly urinary frequency and urgency of 2 years' duration. Although she denied any history of frank haematuria, repeated dipsticks on several occasions were positive for blood. Previously, she had had extensive investigations for primary infertility with no cause found. A cystoscopic examination under general anaesthesia showed a solid-looking mass in the posterior wall of the bladder. A transurethral resection was carried out, deep down to the muscles. Histopathological examination confirmed the presence of multiple glands lined by columnar epithelium and surrounded by condensation of stromal cells suggestive of endometriosis (*Figure 1a* and *b*). Immunohistochemical staining with CD10 monoclonal antibodies (CD10-270, Novacastra, Newcastle-Upon Tyne) was positive (*Figure 1c*) confirming representation of endometrial-type stroma. She was asymptomatic at 6-month follow up.

Discussion

The clinical presentation and management of this case demonstrates that an initial transurethral resection can be successful in treating patients with urinary bladder endometriosis. Several previous reports have advocated surgical partial cystectomy as the treatment of choice, because of concern about incomplete resection and bladder perforation using transurethral resection (Vorstman et al, 1983; Kumar et al, 1984). The incidence of bladder perforation during transurethral resection of bladder tumours is quite low as reported in a

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large series (Skolarikos et al, 2005). This reflects an improvement in video imaging, endoscope technology, instrumentation and urological expertise in endoscopic resection. In a changed scenario, endoscopic resection could be offered as the initial treatment.

Persistent urological symptoms (e.g. dysuria, increased urinary frequency, urgency, cystitis) with a history of infertility should be a clue to the presence of this condition. This should prompt an early referral to urological services (Aldridge et al, 1985).

The cell surface metalloendopeptidase CD10 is present in normal and ectopic endometrial stroma (Chu and Arber, 2000; Sumathi and McCluggage, 2002) and thus its immunohistochemical staining increases the sensitivity of the haematoxylin and eosin (H&E) stain in histological diagnosis of endometriosis. It might be useful in suspected cases with no clear-cut diagnosis (Potlog-Nahari et al, 2004). This case highlights the use of CD10 immunohistochemistry in urinary bladder endometriosis.

Conclusions

An initial transurethral resection should be offered to patients with urinary bladder endometriosis and CD10 immunohistochemistry should be part of part of the histopathological examination, especially in cases with no clear-cut diagnosis of endometriosis. **BJHM**

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Is there a doctor on board?

Whatever the rights, wrongs and responsiblities, it is extremely disturbing to be called to give medical assistance on a long-haul flight. The medical press periodically has correspondence from doctors who have given assistance, and who then have or have not been given a bottle of champagne, or an upgrade, or nothing but a curt thank you. These days, the cabin staff know from passport scanning and databases who on the flight might be a doctor. There is no need for the public announcement. They just come and discreetly ask if you are a medical doctor, and if you can help.

Flying out to New Zealand, we got the call on both legs: London to Hong Kong, and again from Hong Kong to Auckland. Both times it was nothing serious, but it could have been anything. On the first leg, a woman with a bad migraine did not seem to be responding when spoken to. She was still sat upright, and improved when laid down flat. On the second leg, an elderly Chinese man, somewhat the worse for alcohol after celebrating Chinese New Year in Hong Kong, had fallen heavily coming out of the toilet. The steward described him as grey and sweaty, but by the time we reached him he was much better.

But on both occasions, it was not easy to settle once back in our seats. What do you do when half way across the Pacific with a man whose language you don't speak, with no equipment beyond that required for basic resuscitation? Do you divert the plane to somewhere that might be able to deal with him? Once arrived in New Zealand I checked the internet for advice – there was the return flight to London to prepare for. What I took to heart – and hope we are not going to need to do – was the advice to use the aircraft's communication systems to contact doctors on the ground and discuss the case with them. Unsurprisingly, airlines are not keen to divert.

And once in New Zealand: coffee can protect you from cancer, and there are worries about the competence of foreign-trained doctors. So nothing different there. The newspapers' sporadic obsession with how to fund health care (New Zealand has part public funding, with insurance top ups) was in abeyance during our stay.

On March 12, *The New Zealand Herald* reported a New Zealand study showing that office workers working at their computer screens are at greater risk of deep vein thrombosis than long-distance air travellers. I shall use that as an excuse to finish this column, get back to being on holiday, and worry a little less about the return flight. **BJHM**

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