Prostate Cancer and Prostatic Diseases (2001) 4, 178–179
 1365–7852/01 $15.00
www.nature.com/pcan

Haematuria; a late complication of TURP?

EA Bowden[1]* & SJ Foley[2]

[1]*Department of Urology, Royal Bournemouth Hospital, Dorset, UK; and* [2]*Department of Urology, Battle and Royal, Berkshire NHS Trust*

This study was designed to investigate the cause of haematuria for patients that had previously undergone a TURP. One hundred patients were identified in a walk-in haematuria clinic as having been treated by TURP and were prospectively investigated for the cause of bleeding. Prostate regrowth was the diagnosis in 63% of cases. A diagnosis of malignancy was made for 23.5% of these patients. We have confirmed the hypothesis that for patients who present with haematuria after a TURP, the prostate is the usual source of bleeding. *Prostate Cancer and Prostatic Diseases* (2001) **4,** 178–179.

Keywords: TURP; haematuria; vascular prostate

Introduction

Previous haematuria studies show the incidence of benign prostatic hypertrophy (BPH) as the only pathological cause of haematuria found in ~20% of cases.[1,2] As yet, there are no studies to our knowledge which show the prevalence of haematuria in patients with BPH, nor in patients following trans urethral resection of the prostate. However one retrospective review of more than 3000 patients who had undergone TURP noted haematuria was an indication for surgery in 12% of cases.[3] Of patients with recurrent haematuria and BPH, more than 60% had undergone a previous TURP.[4,5] We proposed that prostatic bleeding is the most common cause of haematuria post TURP, so to test this hypothesis we prospectively investigated TURP patients presenting with haematuria.

Recurrent haematuria of prostatic origin is distressing to the patient, and can be debilitating. Treatment options include: limitation of physical activity; tamponade with urethral catheter; fulgration of the bleeding points; antifibrinolytic agents such as tranexamic acid; resection of the prostate; and, more recently, a prospective study on the effect of a 5α-reductase inhibitor, such as finasteride on the natural history of haematuria associated with BPH shows there is effective non-invasive prophylactic treatment available.[6,7]

*Correspondence: EA Bowden, Department of Urology, Royal Bournemouth Hospital, Dorset, UK.
E-mail: lizzy.bowden@talk21.com
Received 10 August 2000; revised 15 December 2000; accepted 20 December 2000

Materials and methods

One hundred patients who presented to a walk in haematuria clinic who had undergone previous TURP (but were beyond the post-operative haematuria phase) underwent full evaluation for the cause of their haematuria. This involved a complete history and history of medications that might predispose to bleeding, physical examination, digital rectal examination, upper tract imaging with excretory urography (IVP) including tomography and ultrasound in selected cases, midstream urine specimen, prostate specific antigen (PSA) determination and flexible cystoscopy. All patients who had undergone surgery in local hospitals had no evidence of haematuria being a major problem prior to TURP. For some patients who had moved into the region, we had no details of previous surgery. The cause of the haematuria was diagnosed where possible and treated appropriately.

Results

The age range of the 100 patients in our study was 64–91 y (mean 74.5 y). The time from TURP to presentation with haematuria was 2–20 y (mean 8.5 y). All these patients presented with macroscopic haematuria. The diagnoses for these patients are shown in Figure 1. 'Other' includes a diagnosis of renal cell carcinoma (2), infection (2), receiving anticoagulant therapy (2), and amyloidosis of the bladder with a colovesical fistula (1). If a patient was diagnosed with dual pathology then 0.5% was attributed to each diagnosis, as the true source of the bleeding may not be proven. If no pathology was found during investigation but the prostate was actively

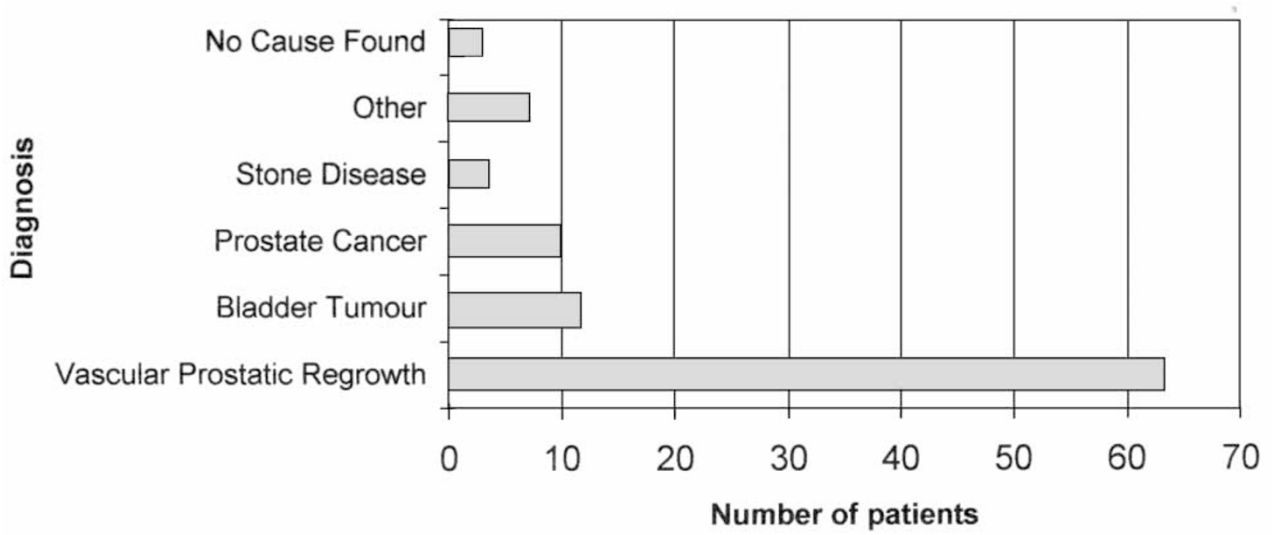

Figure 1 *Diagnoses of 100 previous TURP patients presenting with haematuria.*

bleeding, appeared vascular or showed significant regrowth at cystoscopy, a diagnosis of vascular prostatic regrowth was made.

Discussion

This study confirms the assumption that prostatic regrowth and vascular prostatic remnant are the most likely diagnoses for the previous TURP patient with haematuria. Increased vascularity in the prostatic suburothelium in haematuria patients who underwent TURP has been shown.[8] We suspect that, in the patients with vascular prostatic regrowth under discussion here, the prostatic regrowth would show a similar histological increase in microvessel density compared to non-bleeding patients with an equivalent degree of BPH. It would be interesting to compare the histology of prostatic suburothelium from the initial TURP to the bleeding growth to see if there was a predisposition to increased microvascularity or if the TURP altered the histological character of the hyperplastic tissue.

For a patient with haematuria who has previously undergone TURP, the diagnosis is most likely to be prostatic regrowth. However there is still a significant incidence of new urological tumour, which makes urgent, thorough urological evaluation mandatory. For the patient with recurrent haematuria this can mean multiple invasive investigations with the attendant anxiety and cost implications. As finasteride has been shown to significantly decrease bleeding, haematuria is no longer an immediate indication for surgery. Finasteride therapy may reduce the number of expensive and invasive investigations required by reducing the occurrence of new haematuria in these patients.

In the light of this study, patients presenting with haematuria years after a TURP can be reassured that the most likely diagnosis is vascular prostatic regrowth, although there is a risk of cancer. However, if all men with vascular prostatic regrowth had their symptoms of haematuria controlled with finasteride, this may mean a rise in incidence of malignancy in post TURP patients with haematuria.

References

1 Lynch TH *et al*. Rapid diagnostic service for patients with haematuria. *Br J Urol* 1994; **73**: 147–151.
2 Hasan ST, German K, Derry CD. Same day diagnostic service for new cases of haematuria a district general hospital experience. *Br J Urol* 1994; **73**: 151–154.
3 Mebust WK *et al*. Transurethral prostatectomy: immediate and postoperative complications. A cooperative study of 13 participating institutions evaluating 3885 patients. *J Urol* 1989; **141**: 243.
4 Puchner PJ, Miller MI. The effects of finasteride on haematuria associated with benign prostatic hyperplasia: a preliminary report. *J Urol* 1995; **154**: 1779–1782.
5 Miller MI, Puchner PJ. Effects of finasteride on haematuria associated with benign prostatic hyperplasia long term follow-up. *Urology* 1998; **51**: 237–240.
6 Foley SJ *et al*. A prospective study of the natural history of haematuria associated with benign prostatic hyperplaia and the effect of finasteride. *J Urol* 2000; *163*: 496–498.
7 Kashif KM, Foley SJ, Basketter V, Holmes SAV. *Prostatic Cancer PD* 1998; **1**: 154–156.
8 Foley SJ, Bailey DM. Microvessel density in prostatic hyperplasia. *Br J Urol Int* 2000; **85**: 70–73.