

Angioembolization of Internal Pudendal Artery for Treatment of Long Lasting Gross Hematuria After Transurethral Resection of the Prostate

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To present a case of recurrent gross hematuria after transurethral resection of the prostate that was refractory to endoscopic and open hemostatic interventions at the bladder neck and prostatic fossa. After performing angiographic evaluation of the pelvic vessels and finding the pseudoaneurysm, percutaneous embolization of arterial supply of the pseudoaneurysm was done. The location and type of lesion were successfully determined by angiography and controlled by angio-embolization of the internal pudendal artery. It seems that angiography can be helpful in the diagnosis and management of refractory bleeding after prostatectomy.

Keywords: hematuria; prostatectomy; angio-embolization

INTRODUCTION

To our knowledge, vascular lesions such as pseudoaneurysm and arteriovenous fistula in the arterial supply of the prostate are very rare. Although, bleeding is a known complication in prostate surgical procedures such as transurethral resections, however, it is manageable at the time of surgery⁽¹⁾. Open surgery is difficult for management of pseudoaneurysm. Whereas

endovascular procedures are the first line of treatment in the management of this complication⁽²⁻⁵⁾.

We describe a patient who had recurrent massive hematuria following transurethral resections of the prostate. The location and type of lesion were determined by angiography and controlled by angio-embolization.

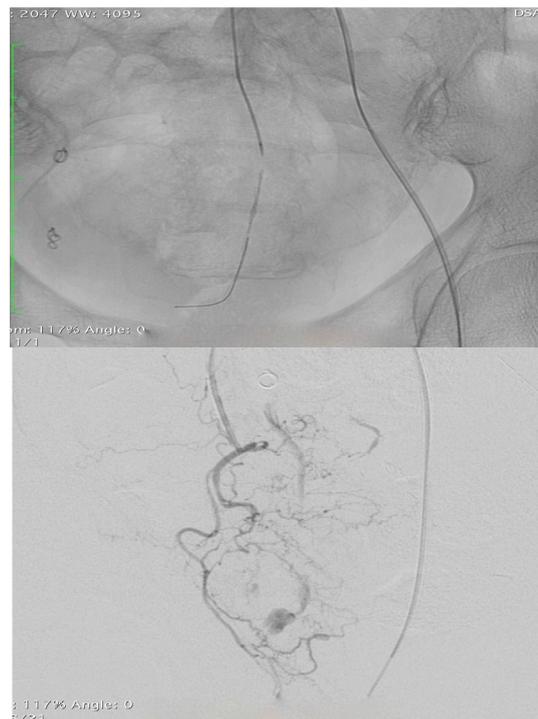


Figure 1. Angiographic evaluation of the pelvic vessels

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CASE REPORT

We present a 73-year-old man who was under treatment of tamsulosin and finasteride for three years because of obstructive urinary symptoms. In spite of medical treatment, he experienced multiple episodes of gross hematuria. After imaging studies and ruling out urinary tract infection, the patient became candidate for cystoscopy. Pre-operative laboratory test results including blood coagulation tests and hemoglobin level were normal. During cystoscopy, we found that the bleeding site originated from the prostatic fossa and observed engorged veins in the bladder neck. Transurethral resection of the prostate was done at the same time and about 55 grams of prostatic tissue was resected and was sent to pathology which revealed benign prostatic hyperplasia. The patient was discharged one day after the surgery. But, 4 days later, patient was readmitted because of clot retention. Cystoscopy was done and after the evacuation of clots, there were not any arterial bleeding or any significant active bleeding in the prostatic fossa. However, the hematuria repeated again after 4-5 days and we evacuated old clots but we did not observe any active bleeding during cystoscopy. After 2 other episodes of bleeding and receiving 48 units packed red blood cell and 13 bag of fresh frozen, we decided to do an open exploration but we did not find any active bleeding so we ligated the arterial supply of the prostate at the bladder neck. Unfortunately, after the surgery, hematuria recurred in a 4-5 days intervals. Finally, angiographic evaluation of the pelvic vessels was performed and a pseudoaneurysm was found in the internal pudendal artery (**Figure 1**). Hematuria ceased immediately after percutaneous embolization of arterial supply of this pseudoaneurysm. The patient was discharged five days after the procedure and now after six months, the patient is asymptomatic.

DISCUSSION

Internal pudendal artery pseudoaneurysm is a rare condition and usually associated with surgical procedures^(6,7). In our case, the patient had recurrent gross hematuria following transurethral resection of the prostate. Eventually, the diagnosis was made using angiography. Concerning the presence of pseudoaneurysm in the internal pudendal artery, angio-embolization was performed for this patient and after the procedure, he had no hematuria. To our knowledge, in the literature, there are some reported cases of internal pudendal artery pseudoaneurysm following prostate surgery presenting with late recurrent hematuria. For example, Celtikci et al. reported a 79-year-old patient with massive hematuria following transurethral resection of the prostate for benign prostatic hyperplasia. Doppler US and angiography revealed a pseudoaneurysm and arteriovenous fistula originating from the right internal pudendal artery. It was successfully treated with coil embolization⁽²⁾. Beckley et al. treated delayed hemorrhage from an accessory internal pudendal artery pseudoaneurysm after robotic radical prostatectomy using microcoils following super selective catheterization⁽¹⁾. In Jeong et al. study, a total of 4 among 563 (0.7%) patients had postoperative bleeding after radical prostatectomy that fit the inclusion criteria. CT angiography revealed active bleeding in all cases. All patients were successfully treated with transarterial embolization without any additional treatment, such as surgical exploration, and

there was no treatment-related adverse event⁽⁸⁾.

In conclusion, results of our study and other studies confirmed that embolization is an efficient method of managing post-operative bleeding due to prostate operations.

CONFLICT OF INTEREST

The authors report no conflict of interest.

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