Rescue Embolisation for Intractable Bleeding Following Open Prostatectomy

Nagendra Nath Vemuri, Ashish Kumar, P Prem Keshore, Sanjay Sinha, Venkateswarlu Jampala

ABSTRACT

Transurethral resection of prostate is currently the gold standard therapy for benign prostatic hyperplasia. However, open prostatectomy remains the procedure of choice for massive glands.

Keywords: Benign prostatic hyperplasia (BPH), Open prostatectomy, Bleeding, Embolisation.

INTRODUCTION

Open prostatectomy holds appeal in dealing with large glands with associated pathology. It is also potentially more beneficial than transurethral resection of the prostate (TURP) in large glands that have associated urethral strictures, ankylosing spondylitis preventing hip flexion and concurrent inguinal hernia. The suprapubic approach is preferred by most, in cases of extremely large median lobe, concomitant bladder stones or a bladder diverticulum requiring repair.

CASE REPORT

A 69-year-old man with well-controlled hypertension was scheduled for open prostatectomy in view of massive prostatomegaly (286 gm). All routine investigations were within normal limits. He had a Mallampati grade III airway on assessment.

Monitoring: Standard monitoring was established. A combined spinal epidural technique was used for the procedure. The duration of the surgical procedure was 75 minutes and the patient was haemodynamically stable throughout the procedure. 1.5 litres of crystalloids were infused during the procedure.

RECOVERY AREA

Continuous bladder irrigation was initiated to prevent clot formation. The returns appeared heavily blood stained and the urethral catheter was placed on traction so that the balloon containing 50 ml of saline can compress the bladder neck and the prostatic fossa. Despite this, there was significant haemorrhage and blood transfusion was commenced. A total of three units of blood were transfused in addition to 1.5 litres of starch solution. In addition, the catheter was flushed as and when required for recurrent blockade. After 2 hours, the sheet covering the patient was noticed to be blood stained and on inspection the bladder was found to be distended apparently with clots.

The blood pressure dropped to 100/60 mmHg with a HR: 60/minutes. The patient was conscious and coherent. In view of the ongoing haemorrhage, it was decided to re-explore in theatre.

OPERATING ROOM

The epidural was topped up for re-exploration. During re-exploration, clots were evacuated collection of blood in the prostatic fossa was noted. Several manoeuvres were carried out to control bleeding including cautery, balloon tamponade, haemostatic sutures, manual pressure over the fossa and contact haemostatic agents. Each time, the bleeding would appear to be controlled but further blood collection would recommence after 3 to 5 minutes. Three more units of blood and two units of fresh frozen plasma were transfused during the re-exploration.

Eventually, the wound was closed after 3 hours of re-exploration and unsuccessful attempts trying to secure...
haemostasis. At this point, a decision was taken to shift the patient to the interventional radiology suite for identification of any bleeding source and benefit of angioembolisation.

The blood supply to the prostate is from the anterior branch of the internal iliac artery, mainly by the inferior vesical artery, which subsequently branches into the urethral and capsular vessels (Fig. 1).

The urethral arteries are the principal blood supply to the adenoma in benign prostatic hyperplasia.

**RADIOLOGY SUITE**

In the interventional radiology suite, the epidural was topped up once again. Access was gained via the transfemoral route. An abdominal aortogram and selective internal iliac angiograms were performed. Bleeding was noted more from the left (Figs 2 to 4) than the right side (Figs 5 and 6). The anterior divisions of the internal iliac artery on both sides were cannulated and embolised using gel foam. At the end of the procedure, bleeding was well controlled and urine became more clearer. The patient was haemodynamically stable throughout the procedure both during re-exploration and during angioembolisation. Following embolisation, bleeding stopped and there were no procedure related complications.
DISCUSSION
In suprapubic prostatectomy, haemostasis may be more difficult because of inadequate visualisation of the entire prostatic fossa after enucleation.

The Sicilian–Calabrian society of urology reviewed 1804 open simple prostatectomies performed for benign prostatic hyperplasia (BPH) in 1997 and 1998.¹ This large contemporary series noted that only 11.2% of cases were performed in a retropubic manner. There was one death noted (0.05%). Investigators found that 8.2% of patient required blood transfusion and 1.1% of patients required surgical reintervention (usually for clot retention).

Postoperative bleeding is a troublesome yet uncommon phenomenon. In his series of 1000 consecutive patients, Lepor et al documented two instances of bleeding needing repeat operation with one case requiring embolisation.² Such an incidence is consistent with other contemporary reports.

In addition to Lepor et al have advocated endovascular embolisation as a treatment modality for post-operative bleeding.³

CONCLUSION
When all conventional manoeuvres to control surgical bleeding seem ineffective, embolisation remains the only valuable rescue option. Early consideration should be given to this intervention provided the facility is available.

REFERENCES

ABOUT THE AUTHORS
Nagendra Nath Vemuri (Corresponding Author)
Head, Department of Anaesthesia, Medwin Hospital, Hyderabad Andhra Pradesh, India, e-mail: vemuri57@gmail.com

Ashish Kumar
Resident, Department of Anaesthesia, Medwin Hospital, Hyderabad Andhra Pradesh, India

P Prem Keshore
Resident, Department of Anaesthesia, Medwin Hospital, Hyderabad Andhra Pradesh, India

Sanjay Sinha
Senior Consultant, Interventional Radiology, Medwin Hospital Hyderabad, Andhra Pradesh, India

Venkateswarlu Jampala
Head, Department of Urology, Medwin Hospital, Hyderabad Andhra Pradesh, India