

# Day case transurethral prostatectomy in Nigeria

L. I. Okeke

Department of Surgery  
College of Medicine University of Ibadan and  
University College Hospital PMB 5116, Ibadan, Nigeria  
E-mail: liokeke@yahoo.com

## Summary

**Background:** Caudal block regional anaesthesia has been used over the years for out-patient procedures<sup>3</sup>, and in transurethral resection of the prostate gland in Nigeria since 1995<sup>4</sup>. In a preliminary study involving 10 selected patients undergoing TURP, spontaneous voiding resumed on the operative day, and their discharge on the same day did not in any way lead to any adverse events<sup>5</sup>. This larger series further confirms the safety of transurethral resection of the prostate gland as a day case procedure.

**Method:** One hundred and eighty patients with obstructing benign prostatic enlargement on urethral catheter drainage with prostate glands weighing 60g or less on ultrasound assessment, were subjected to transurethral resection of the prostate gland (TURP) as day-cases<sup>5</sup> under caudal block regional anesthesia using 2% xylocaine with 1 in 80,000 adrenaline<sup>4</sup>. Hemostasis was secured until effluent of the irrigation fluid from the bladder was totally free of any visible trace of blood. A catheter was not inserted postoperatively. The patients were discharged on the same day after they had satisfactorily voided.

**Results:** These patients resumed spontaneous voiding postoperatively before discharge on the operative day. Their discharge on the same day did not in any way lead to any adverse events.

**Conclusions:** With a better understanding of the anatomy of the innervations and blood supply of the prostate gland, and proper patient selection, this larger series has confirmed that day-case TURP without postoperative catheterization can now be safely added to the list of day case procedures.

**Keywords:** BPH, Daycase, Catheterless, TURP.

## Résumé

**Introduction:** Anesthésie régionale caudal block a été utilisé au cours de années pour le traitement ambulatoire, et dans la résection transurètre de la glande prostate au Nigeria depuis 1995. Dans une étude préliminaire impliquant 10 patients choisis et subi au traitement TURP, on avait recommencé l'évacuation spontanée le jour de l'intervention chirurgicale et leur renvoi le même jour n'a pas du tout provoqué aucun effet négatif. Cette série très grande vient de confirmer de plus que la résection transurètre de la glande prostate comme un cas d'un jour est un traitement sans danger.

**Méthode:** Cent quatre vingt patient atteints d'hypertrophie de la prostate oblitérée bénigne sur le drainage cathéter urètre avec la glande de la prostate pesant 60g ou moins sur l'évaluation à travers l'ultra-son, ont été subi à une résection transurètre de la glande de la prostate (TURP) comme des cas d'un jour à travers l'anesthésie régionale caudal block tout en utilisant 2% cylocaïne avec 1 dans 80,000 adrenaline. L'hémostase était en sûreté jusqu'au effluent de fluide d'irrigation à partir de la vessie était complètement libre de n'importe quelle trace visible du sang. Un cathéter n'était pas inséré postopérativement. Les patients ont été renvoyés le même jour après qu'on les avait de manière satisfaisante évacuée.

**Résultats:** Ces patients ont commencé évacuation spontanée postopératoire avant d'être renvoyé le jour de l'intervention chirurgicale. Le fait qu'on a renvoyé les patients le même jour n'avait pas provoqué aucun effet grave.

**Conclusion:** Avec une meilleure compréhension de l'anatomie d'innervation et de la pompe cardiaque circulation sanguine de la glande de prostate, et le choix correct des patients, cette série très large a confirmé que le TURP cas d'un jour sans la cathétérisation postopératoire peut être, maintenant, ajouté sans danger à la liste des cas du traitement d'un jour.

## Introduction

Transurethral resection of the prostate gland (TURP) is a major surgical operation, which is usually performed under general, spinal or epidural anesthesia. This usually required an overnight fast, nothing by mouth on the day of operation, intravenous fluids, bladder irrigation postoperatively, and postoperative hospitalization for a variable number of days. However, since the pain fibres from the pelvic viscera including the prostate gland, the urinary bladder, and the entire perineum including the penis are mostly carried by the sacral parasympathetic outflow via the anterior divisions of the sacral nerve roots 2, 3, and 4<sup>1,2</sup> it was considered that caudal block regional anesthesia as obtained by injection of 2% xylocaine with 1 in 80,000 adrenaline at the dose of 2mg/kg into the sacral canal for outpatient urethral dilatations and cystoscopies should also be adequate for transurethral resection of the prostate gland on an outpatient basis if the need for postoperative urethral catheterisation and bladder irrigation could be obviated. In a preliminary study involving 10 selected patients undergoing TURP, spontaneous voiding was resumed postoperatively before discharge on the operative day<sup>5</sup>. Their discharge on the same day did not

Correspondence

in any way lead to any adverse events. The experience with 180 patients with obstructing benign prostatic enlargement who underwent TURP as day cases is here presented.

### Patients and method

One hundred and eighty patients with obstructing benign prostatic enlargement requiring surgery were recruited into this study. Their ages, ultrasound estimation of the weight of their prostate glands, and other associated medical conditions were noted. Diabetics and those with stroke, blindness, vesical calculus, inguinal hernia and prostate glands weighing more than 60 grams on ultrasound measurement were excluded. Informed consent was obtained from each patient. Backup facilities for general, and spinal anesthesia were provided as well as a standby anesthetist. Baseline blood pressure, pulse and respiratory rate were recorded and checked every 5 minutes subsequently during the procedure, and an intravenous line of normal saline was set up. Caudal block regional anesthesia was administered using 2% xylocaine with 1 in 80,000 adrenaline as previously described<sup>4,5</sup>. The patient then turned to lie supine and was placed in the Lloyd Davies position for the transurethral resection of the prostate gland (TURP). The patients were not sedated. Transurethral resection of the prostate was performed using a 24FR single channel resectoscope. Resection was commenced at 7 o'clock, and then at 5 o'clock, then the middle lobe, followed by the lateral lobes and finally the anterior lobe. Hemostasis was secured until effluent of the irrigation fluid from the bladder was totally free of any visible trace of blood. A catheter was not inserted postoperatively. The duration of the procedure was documented. They were commenced on normal meals as soon postoperatively as they wished and were discharged home on antibiotics after they had voided at least once. They were instructed to telephone the hospital or return to the hospital immediately if they had hematuria otherwise to return for a review with their histology report in a fortnight.

### Results

One hundred and eighty patients were studied. Their ages ranged from 58 years to 104 years with a mean of  $76 \pm 8$  years, and the mean prostatic volume was  $58 \pm 5$ cc. Resection time ranged from 35 minutes to 75 minutes with a mean of  $55 \pm 10$  minutes. None required blood transfusion. The anesthesia was satisfactory in all the patients. Four (2%) patients complained of perception of sense of bladder fullness as their urinary bladder intermittently filled up during the procedure but this did not interfere with satisfactory conclusion of their operation. Nine (5%) patients who had rather tight external urethral meatus complained of pain in the distal urethra postoperatively but did well on mild analgesics. There was no incidence of hematuria and none of the patients needed to come back before their fortnight appointment. The histology of the resected specimens was benign in all the patients,

with histologic evidence of chronic prostatitis in ten patients.

### Discussion

Prostatectomies whether open or closed have traditionally been performed under general spinal or epidural regional anesthesia with the attendant manpower and material costs of the anesthesia and anesthesia related morbidity and mortality. Postoperative admission and bladder irrigation, which before now seemed inevitable further increased cost, and inconvenience to the patient and led to higher pressures on our often-limited bed facilities in the hospital. Caudal block regional anesthesia administered into the sacral canal, anesthetizes both the somatic and pelvic parasympathetic neuronal outflow from the 2nd to 4th sacral segments, in effect blocking sensory perceptions from the bladder, prostate, urethra, lower anorectum and the perineum<sup>4,8</sup>. It thus found extensive use in pediatric surgery, general surgery and obstetric practice<sup>7</sup> but until recently had not been tried in urology for transurethral resection of the prostate gland.<sup>4</sup> In a study involving 525 patients, Polushin et al (1998) noted that the duration of anesthesia ranged from 2.5 to 3.5 hours and could be longer if the local anesthetic was mixed with a sedative drug<sup>8</sup>. This duration far exceeds the traditional 60 minutes allowed for safe transurethral resection of the prostate to keep the incidence of transurethral resection syndrome in check. Though they experienced failure of the procedure in 5.2% of their patients, they did not encounter any complications and concluded that the method was simple and reliable. In this larger study as was also seen in the preliminary study, the caudal anesthesia was successfully administered to all the patients and no complication related to the caudal anesthesia, or to performance of the procedures as day cases without the use of postoperative urethral catheterisation and bladder irrigation was encountered. It is worthy of note that since caudal block regional anesthesia does not affect the central nervous system, cardiovascular system, musculoskeletal system, or the gastrointestinal system, the patients are hemodynamically stable during the anesthesia and operative procedure and were recommenced on normal oral feeding as soon after surgery as they desired. Previous experiences had shown that diabetics tended to develop detrusor muscle failure after caudal anesthesia, necessitating urethral catheterisation and continuous catheter drainage of urine for varying periods of time to allow for recovery of detrusor muscle tone.<sup>4</sup> Diabetics were therefore excluded from this study. Patients with prostate glands weighing more than 60gm were excluded since the larger glands may pose more difficulties with the achievement of perfect hemostasis which was the basis for managing these patients as day-cases without urethral catheterisation. The method of resection used in this study which commences at the 7 and 5 o'clock positions before tackling the middle lobe, the lateral and the anterior lobes is predicated on the fact that even though the prostate gland may derive its blood supply from numerous

branches from the inferior vesical artery, all the branches enter the prostate gland at the 5 and 7 o'clock positions<sup>1,2</sup>. Therefore, commencing resection at the 7 and 5 o'clock positions effectively drastically reduces the blood loss experienced during the rest of the prostatic resection and also makes it possible to achieve a totally bloodless effluent from the bladder at the time of conclusion of the procedure. This will also explain why none of the patients required blood transfusion, postoperative urethral catheterisation or bladder irrigation. With a better understanding of the anatomy of the innervation, blood supply of the prostate gland and proper patient selection, day-case transurethral resection of the prostate gland without post-operative urethral catheterisation continues to be safely done and has become a routine procedure, reducing the cost and inconvenience associated with hospitalisation on the part of both the patient and their relations on the one hand and the attending hospital on the other hand.

### References

1. Last RJ. (Ed). *Anatomy: Regional and applied*. London; Longman , 984; pg. 343 – 345.
2. Warwick R, Williams PL, (Eds). *Grays Anatomy*. London; Longman, 1973; pg 1079 – 1081.
3. Adebamowo CA, Ladipo JK, Ajao OG. Randomised comparison of agents used in caudal anesthesia in anal surgery. *Br. J. Surg.* 1996; 83: 364 –365.
4. Okeke IL. Experience with caudal block regional anesthesia for transurethral resection of the prostate gland. *West Afr. J. Med.* 2002; 21: 280 – 281.
5. Okeke IL. Daycase transurethral prostatectomy without postoperative catheterisation: a preliminary study. *Nig. J. Surg. Res.* 2001; 3: 154 – 158.
6. Dalton JA, Owen H, Cousins MJ. Subarachnoid and extradural anesthesia. In Nimmo WS, Smith G. (Eds). *Anesthesia Oxford*; Blackwell Scientific Publications, 1989; pg 1034 – 1070.
7. Paull JD. The place of caudal anesthesia in obstetrics. *Anesth-Intensive care.* 1990; 18: 313 – 8.
8. Polushin IUS, Rostomashvili ET, Levshankov AI, Kostiuhenko AL, Bogatova GP. Prospects of the use of caudal anesthesia. *Anesteziologiya i Reanimatologiya* 1998; 5: 42 – 4.