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Ambulatory transurethral resection of the prostate

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Despite the plethora of new treatment modalities for patients with benign prostatic hyperplasia, conventional transurethral resection of the prostate remains the most effective procedure in terms of patient satisfaction and urodynamic improvement. Traditional nursing and surgical techniques have dictated that it requires an inpatient hospital stay. This pilot study looks at the feasibility of performing the operation as a day-case procedure on a group of selected patients.

Key words: Prostate, transurethral resection, benign prostatic hyperplasia

Introduction

The hospital inpatient stay for patients undergoing transurethral resection of prostate (TURP) has fallen from a mean of 14 days in 1975 to a mean of about 6 days more recently[1]. Any further reduction in this inpatient stay is conventionally limited by the need for a period of postoperative bladder catheterization and irrigation to wash out bleeding from the prostatic bed. However, some recent reports[2] have suggested that bladder irrigation is unnecessary and certain urological centres now routinely perform TURP in this way. It should therefore be possible, using modern anaesthetic techniques, to perform TURP on certain selected patients as a day-case procedure. We conducted this pilot study on such a group of selected patients and performed TURP without an overnight stay.

Patients and method

Patients

A total of 18 men who fulfilled a number of selection requirements were included in the study. The usual parameters of symptoms (assessed using the AUA score, urinary flow rate and bladder residual volume on ultrasound) were used to select patients for surgical treatment. The patients were also selected according to age (mean 64 yr, range 57–72 yr), their medical fitness for day-case anaesthesia (ASA grade I–II) and prostatic size (with an estimated 40 g of tissue or less as determined by digital rectal examination). Other essential inclusion criteria included proximity of home to hospital (within half an hour's journey), the presence of partner/carer to escort them home and stay with them for at least 24 h, and access to a telephone. A community urological nurse saw the patient prior to surgery and the same nurse was available for the first 24 h after surgery for telephone advice and a home visit on the first postoperative morning. All patients provided informed consent to take part in this study.

Method

The selected patients were operated on at the beginning of a morning operating list in the Day Surgery Centre. No premedication was administered. After establishing an intravenous infusion, anaesthesia was induced with midazolam/thiopentone, and maintained with nitrous oxide, oxygen and ethrane. Respiration was spontaneous using a face mask and pharyngeal airway or a laryngeal mask airway. Analgesia was provided with a caudal block, using 20 ml 0.0175% bupivacaine, thereby avoiding any motor block and consequent weakness of the legs. During the course of the operation and early postoperative period, 2 l of crystalloid were infused with a view to inducing a diuresis. A standard TURP was performed by one of two surgeons and postoperatively the bladder was irrigated through a 3-channel urethral catheter until the irrigant cleared or for up to 6 h. With the irrigation stopped, the catheter remained in situ and the patient was encouraged to drink. The patient left the hospital that afternoon and, after review at home by the community nurse, was next seen as an outpatient on the third postoperative day when the urethral catheter was

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removed. Suitable analgesics and a course of antibiotics were provided during this period. On further review at 8 weeks the patient was asked to fill in a questionnaire about his experience and feelings of the operation performed in this way.

Results

All 18 patients who were selected for the study underwent surgery and attended follow-up as arranged. Anaesthesia and surgery were performed without complication in all patients. The mean resection weight of the glands was 19.4 g (range 6–46 g); histology revealed invasive adenocarcinoma in one gland and foci of adenocarcinoma in a further three specimens. A total of 16 of the 18 patients went home that evening as planned while the remaining two were admitted because of bleeding and the need for prolonged bladder irrigation. A further two patients were admitted later that night or the following morning because of clot retention in one case and an inability to look after the catheter in another. This meant that four of the 18 required some form of inpatient care.

All the ambulatory patients attended clinic on the third postoperative day and had the catheter removed uneventfully. Subsequent visits revealed improvements in urinary symptoms as are achieved after conventional inpatient surgery.

Discussion

Simple demographic studies indicate that the population of men over the age of 65 (and thus susceptible to the development of symptomatic benign prostatic hypertrophy) is increasing rapidly in both North America and Europe. This, combined with spiralling health costs, has led to an extensive search for a more economical means of treating patients with this condition[3]. Pharmacotherapy, balloon dilatation, cryotherapy, prostatic stents and microwave thermotherapy have all been evaluated but none to date can match the efficacy of TURP in terms of urodynamic improvement or relief of symptoms[4]. Although some of these therapies have a continuing role to play in the management of these patients, there is a high overall failure rate with a significant proportion of patients subsequently requiring TURP. It would thus appear that the most cost-effective treatment for the majority of patients with demonstrable bladder outflow obstruction is still transurethral surgery. In an attempt to contain the costs of this conventional surgery, efforts have been made to prevent sepsis and other medical complications which extend the hospital stay, though this remains on average well over 6 days[5]. Any further significant reduction in cost would therefore require a reduction in the period of stay in hospital.

In 1934 the average hospital stay for TURP was 16 days[6], which although being better than the average for open prostatectomy of 30 days would be unthinkable today. Changing medical practice and attitudes have been responsible for the gradual reduction since then but it has been argued that any further reduction would not be practicable[7]. This is undoubtedly true for the majority of patients who, due to their age and comorbid conditions, require more prolonged postoperative observation and recovery. There is recent evidence to suggest, however, that the greatest increase in surgery for benign prostatic hyperplasia is occurring in the younger age group (50–59 yr)[8]. The result of this pilot study suggests that these patients are capable, for medical and social reasons, of undergoing this type of surgery on an ambulatory basis. The patients were selected on a number of criteria: medical fitness, social circumstances and prostate size and added to these a clear understanding by the patient of the operation is almost mandatory. This selection process will actually remove a large proportion of patients who require prostatic surgery from being considered for ambulatory surgery.

In this study, four of 18 patients required admission on the night of surgery or the following morning. These were for problems with bleeding or the catheter itself; though all four of these had prostatic resection weights well over the mean of 19.4 g, one of them had a malignant gland and one of the patients was unable to get home because his wife was unable to drive in the dark due to poor vision. The study made use of a community-based nurse who provided both a home visit on the morning after surgery and a telephone contact service on the day of the procedure. We believe that this provided important reassurance to the patient and prevented unnecessary calls to local family doctors during the night. Before surgery, local doctors had been informed of both the study and the individual patients participating.

All the patients were asked at a subsequent outpatient visit to complete a questionnaire about the overall experience of ambulatory TURP. The majority of patients admitted that they had had considerable anxiety about undergoing the surgery without a hospital stay, but in retrospect they said it was easier than expected and they had appreciated recovering in their own home.

Although this study is limited by the relatively small number of patients, it suggests that ambulatory TURP is an option worthy of further consideration. Its success or otherwise would appear to be related to several factors: (a) very careful patient selection, (b) the provision of a community nurse to provide help and reassurance once the patient is out of hospital, and (c) acceptance that overnight admission will be necessary in a proportion of patients. As the pressure increases to improve healthcare efficiency, reductions in inpatient stay continue to be sought. As long as patient safety is not compromised in any way, patients also appear to appreciate this goal and the results of this study suggest that ambulatory TURP is worthy of further trials.

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