



Early post-operative incontinence following transurethral resection of the prostate: prevalence and patient experiences

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ABSTRACT

Benign prostatic hyperplasia affects many men over 70 years of age. One of the most effective treatments is transurethral resection of the prostate using either diathermy current through a fine metal cutting loop or holmium fibre. Even after successful surgery, however, patients can suffer from temporary incontinence. Results of a pilot study found that nurses underestimated this problem and were not aware of incontinence in their patients. The aims of this study were to assess prevalence of early post-operative incontinence, to explore patients' experiences with it, and to determine whether they received adequate information from nurses about how to deal with incontinence at home. To assess prevalence, symptoms and their interference with daily life, 94 men were interviewed using the International Consultation of Incontinence Questionnaire Short Form. To explore experiences, six men were interviewed using an interview guide with open-ended questions. The findings showed that 35% of the men experienced early post-operative incontinence within 2 weeks after discharge from hospital. The majority (84%) declared that incontinence interfered with their daily lives. This study reveals that nurses have an important role in educating patients about coping with temporary incontinence following prostate surgery.

Key words: Benign prostatic hyperplasia • Nursing care • Patient education • Patient-teaching • Transurethral resection of the prostate • Urinary incontinence

RATIONALE

Progressive enlargement of the prostate gland, known as benign prostatic hyperplasia (BPH), is extremely common and affects men 70 years of age and older. As the elderly population grows, the incidence of BPH has increased rapidly. Approximately 50% of men will develop measurable enlargement of the prostate, which can cause a gradual increase in lower urinary tract symptoms (LUTS) including frequency of urination, slow stream, urgency and nocturia. The most frequent symptom is a decrease in peak urinary flow rate (McNicholas and Michell, 2006).

Today there are different options to treat BPH: drug treatment, minimally invasive surgical techniques

and different forms of endoscopic prostatectomy. All treatments are intended to improve symptoms. One of the most effective treatments is the endoscopic removal of the inner part of the gland by transurethral resection of the prostate. Two approved methods of transurethral resection of the prostate include using diathermy current through a fine metal cutting loop (TURP) or holmium laser enucleation of the prostate (HoLEP). Although other methods have been developed in recent years, these two treatments are still the 'gold standard' and thus the most common procedures for treating BPH. Symptom relief and removal of the obstruction are well documented benefits of both methods (McNicholas and Michell, 2006; Rassweiler *et al.*, 2006; Tan *et al.*, 2007; Lourenco *et al.*, 2008; Mavuduru *et al.*, 2009).

The most frequent complications within the first 4–6 weeks postoperatively are prolonged urinary retention (3–9%), recurrent or persistent bleeding with clot retention that require reintervention (2–5%) and urinary tract infections (1.7–21.6%). The two major

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late complications are urethral strictures (2.2–9.8%) and bladder neck contractures (0.3–9.2%) (Rassweiler *et al.*, 2006).

Even after successful surgery, LUTS such as irritative micturition, urinary urge incontinence or terminal dribbling, may be present and cause the patient concern. In a review of publications from 1989 to 2005, Rassweiler and colleagues (2006) found that early incontinence may occur in up to 30–40% of patients. 'Early incontinence' was not clearly defined with respect to time. According to these authors, early post-operative incontinence is usually associated with symptoms of urgency. This is caused either by detrusor instability as a result of long-lasting BPH or post-operative irritative symptoms and urinary tract infection. In a study with 100 patients, urge incontinence occurred in 38% (TURP) and 44% (HoLEP) treated patients at a 1-month follow-up (Rigatti *et al.*, 2006). However, in a more recent comparison of TURP and HoLEP in terms of efficacy, conducted 3 weeks postoperatively among 30 patients, 13% in the HoLEP group had urinary incontinence compared to none in the TURP group (Mavuduru *et al.*, 2009). Although patients can still suffer from LUTS and be incontinent after TURP and HoLEP, there is limited information in the current literature about early post-operative incontinence rates and how patients are supported and educated to deal with this problem once at home. This is probably due to the fact that outcome variables of medical and surgical treatments are usually considered long-term.

The International Continence Society defined urinary incontinence as 'the complaint of any involuntary leakage of urine' (Abrams *et al.*, 2002, p. 168). Even a small urinary leakage can be very unpleasant and embarrassing for men. This has implications for post-operative patient management by nurses and the surgeon, necessitating education about coping with this temporary incontinence at home during the early post-operative period.

BACKGROUND FOR THE STUDY

The background and the motivation for this study are based on the results of a pilot study, conducted in 2007 with 32 patients, attempting to evaluate nursing interventions regarding early post-operative incontinence following TURP and HoLEP. Half of the interviewed patients (50%) reported urinary incontinence postoperatively within the first few weeks at home. Further, nurses did not sufficiently recognize the incontinence problems of these patients. Although it is the nurse's responsibility to educate patients about how to deal with incontinence, only 20% of the incontinent men reported receiving any information on this subject.

The results of this pilot study motivated the nursing team at the Department of Urology to initiate further steps. Patient information about pelvic floor muscle training and incontinence products were prepared and nurses were instructed how to teach it to patients. In addition, the larger study that is described here was planned.

AIMS

The **aims** of this study were (i) to gather baseline data about early incontinence rates in patients after TURP and HoLEP following discharge from the hospital; (ii) to learn how patients had been supported and educated by nurses to deal with incontinence at home and (iii) to explore how patients experienced incontinence during the first 2 weeks after discharge.

MATERIALS AND METHODS

A combination of quantitative and qualitative methods was used. In the quantitative portion of the study, prevalence and characteristics of early post-operative incontinence, as well as related nursing interventions, were assessed. Using qualitative methods, incontinent patients who agreed to participate were interviewed about their experiences of living with incontinence in the early post-operative phase.

Sample and setting

The study was conducted in a urology department of a university hospital in Switzerland. During 1 year, all men discharged post TURP or HoLEP were considered for study participation. Patients were eligible for inclusion if they understood and spoke German and were willing to give informed consent. Cognitively impaired patients were excluded.

According to the power calculation, a sample of at least 59 men was needed. The sample size was estimated based on the literature (Rassweiler *et al.*, 2006; Rigatti *et al.*, 2006) that reported 30–44% of these patients experienced incontinence, and the pilot study in 2007 (50% of patients reported incontinence, or $n = 16$). An expected proportion of 40% and a total width of the confidence interval of 0.25 with a confidence level of 95% were fixed (Hulley *et al.*, 2001).

Ethical considerations

Ethical approval was obtained from the Ethics Committee. Men have been informed that study participation was voluntary and there would be no negative consequences for non-participation regarding later treatment in the department. They were assured that data would be handled confidentially. The interviewer would be bound to discretion and records

would be deleted at the end of the study. While findings were presented to professionals, no identification of single patient was possible. Men who agreed to take part in the second interview received written information about this phase of the study and provided written informed consent.

Data collection

Eligible patients were contacted by telephone within 2 weeks of discharge by a designated nurse who was experienced in urology nursing. They were informed about the study. With those who agreed, the first interview was performed using the validated International Consultation on Incontinence Questionnaire Short Form (ICIQ-SF). This questionnaire was developed by an expert committee established by the International Consultation on Incontinence and is part of the guideline on urinary incontinence edited by the European Association of Urology (Schroeder *et al.*, 2009), and is recommended for the investigation of urinary incontinence. Participants were asked to rate first the frequency of incontinence episodes (never, once a week, two or three times a week, once a day, several times a day, all the time); second, the amount of urine leakage (none, a small amount, a moderate amount, a large amount) and third, how much leaking urine interfered with their daily life on a scale from 0 (not at all) to 10 (a great deal). Additional questions were asked when urine leakage occurred.

Three interview questions from the pilot study were used to assess nursing interventions. Patients were asked if they received information from the nurse about urinary incontinence, wearing pads and how helpful this information was. Those who did not receive this information were asked if they would consider such teaching useful.

Men who agreed to participate in the qualitative interview were contacted by telephone. An interview guide with open-ended questions covered issues related to their experiences and perception of living, coping with incontinence at home, and needs for supportive care and information. These interviews were conducted by a clinical nurse specialist in urology.

Data analysis

Quantitative data from structured telephone interviews was analysed using descriptive statistics (frequencies, percentages, means and medians).

Qualitative data from the second telephone interview was tape-recorded, transcribed verbatim and analysed using a qualitative content analysis approach based on the study by Mayring (2008). In the first step, content relevant to the research question was marked in the data. These paragraphs were rewritten in a more

Table 1 Incontinence questionnaire results

	N = 94 n (%)
Incidence of leakage	
Never	61 (64.9)
Once weekly	2 (2.1)
Once daily	7 (7.5)
More than once a day	24 (25.6)
Amount of urine leakage	
Small	29 (30.9)
Large	4 (4.2)
Interference with daily life (only incontinent men)	n = 33 (9%)
Not at all	5 (15.1)
Some	14 (42.5)
Moderate	12 (36.3)
A great deal	2 (6.1)

universal form. Next data were grouped into themes. Data from each theme were finally summarized and illustrated with citations.

RESULTS

Over a 1-year period, 110 eligible men were discharged from the department of urology post TURP or HoLEP. They were all contacted by telephone. Ninety-four men aged 51 to 92 years (median 74) agreed to participate and the first interview was performed. Only six men agreed to participate in the second interview. Most of the men who declined participation stated that they recovered rapidly from early post-operative incontinence, and that they could clarify their concerns with the nurse during the first interview.

Prevalence of early post-operative incontinence and interference with daily life

Sixty-one (64.9%) of the 94 patients were not experiencing incontinence at interview time, but for 33 (35.1%) of the interviewed patients, urinary incontinence occurred once or several times a day. Of this group, 29 stated that they leaked a small amount of urine. Only four men rated their leakage as a large amount. Nevertheless the vast majority of men who leaked urine ($n = 28$; 84.8%) declared that incontinence interfered with daily life. Eighty-two (77%) of the interviewed patients received information about incontinence and wearing pads from the nurse; all found such teaching very useful (Table 1).

Patient experiences of early post-operative incontinence

Six patients were willing to take part in the second telephone interview concerning their understanding

and experience of incontinence at home during everyday life. Their reported experiences have been grouped into three areas: before, during and after the hospital stay.

Before hospital stay

This period includes personal preparation for surgery and the hospital stay. Some of the men feared the risk of post-operative incontinence. They discussed the operation with other men, searched for information on the Internet, or asked their physicians. These men considered information gathering a positive experience. They gained confidence from a better understanding of the disease, treatment and risks. Some of them pre-emptively bought incontinence pads. One man said: *'It is very important, that you know exactly what can happen so you don't feel insecure.'* Another stated: *'All my friends who had this treatment told me, that one loses urine postoperatively. But they also told me that it will be temporary.'*

During hospital stay

All men reported their experiences when the catheter was removed. Straight after the removal they only leaked some drops of urine, but in the following days, urine loss increased. Some men complained that they did not receive information about early post-operative incontinence in the hospital from either the physician or the nurse. All six men reported that they received incontinence pads from the nurse after catheter removal but were not told how long they would need the pads or where they could buy them. One man stated: *'On the day of discharge I didn't get any pads to take home and I didn't know where I could buy them. I believed that now it was no longer necessary to wear pads. When I reached the train station, I had to sneeze and at the same time my trousers were wet. I would have appreciated if the nurse or the doctor informed me comprehensively about this need.'*

At home

Men's experiences varied according to the degree of incontinence. Some men experienced minor urinary leakage in the hospital, which increased when they were at home. Leakage occurred mostly when they were physically active. When they felt that their bladders were full, they had to go to the toilet immediately. Wearing pads was not very bothersome; they experienced it as acceptable and convenient. At the same time, they had to ensure pads were fastened correctly in their underwear. One man described it as follows: *'I have to be very careful when I fix the pad*

in my pants. If I don't keep my eye on this it happens that the pad gets out of place.' Two other men worried about whether other people could smell the urine and did not want to go anywhere. One of them said: *'I don't feel like going anywhere. I just stay at home and watch TV.'*

Although for most men this incontinence is temporary and not serious, it may result in feelings of shame, and men discuss it only with persons whom they trust. A man who was a widower was happy to talk to his friend about incontinence; however, he did not dare to tell his daughter about it. *'I am widower and live alone. My daughter offered to wash my clothes. But I cannot accept this because I don't like that she knows about my incontinence. I'm glad to have one good friend with whom I can discuss those things.'*

Some men experienced blood in the urine when they were at home, and even those who had been informed of the possibility worried about it. Participants reported that bleeding was not serious and the condition resolved quickly.

Married men reported that their wives supported them emotionally. Wives were appreciative, patient and helped to manage the situation. One man said: *'My wife is experienced in those things. She assisted me, bought incontinence pads and special pants for me. She has a great understanding for this awkward situation.'*

DISCUSSION

The results of this study provide insight into a common but poorly explored early post-operative occurrence: the frequency of incontinence and its impact on patients in the first 2 weeks following TURP or HoLEP.

Data from the interviews with the ICIQ-SF showed that involuntary leakage of urine occurred for 35.1% of the men post discharge at home. Thirty-one percent of these men estimated urine loss as a small amount. Even so, the majority of men leaking urine (84%) declared that incontinence interfered negatively with daily life. Because it is known that this problem is usually temporary, there has been little effort to address the issue. For these patients, however, even temporary incontinence may interfere with daily life. Incontinence can lead to embarrassing situations, such as episodes of wet clothes and malodour, which have a negative impact. Subsequently, the men may withdraw from social activities and be reluctant to leave the house. Nurses need to educate patients before discharge so that they are prepared to deal with potential early incontinence problems at home.

Only six men were willing to take part in a second interview to explain more about their experiences with incontinence. Most men said that

they recovered rapidly from early post-operative incontinence. However, they asked questions during the first telephone interview about dribbling urine, blood in the urine and how to handle problems. Results of other studies confirm that telephone follow-up by nurses support discharge management and are appreciated by patients (Lorentz, 2008; German Network for Quality Development in Nursing, 2009).

The qualitative interviews revealed that patients who were informed about potential risks and how to manage temporary incontinence were able to prepare themselves mentally and thus felt more confident. In addition, men who lived in a relationship felt supported by their partners.

IMPLICATION FOR NURSING PRACTICE

The results of this study demonstrate that sensitizing nurses about the topic as well as developing patient information and teaching nurses how to use it were effective. Unlike the pilot study, 77% of the patients now received information about incontinence from the nurses. A nurse's knowledge of early post-operative incontinence following TURP or HoLEP is important for the identification of the problem and patient education on strategies to cope effectively; that is, to provide information on the risk of incontinence, how to obtain and use pads and how to perform pelvic floor exercises.

LIMITATIONS OF THE STUDY

This study was undertaken as a result of a pilot study that evaluated nurse interventions regarding early post-operative incontinence in men following TURP and HoLEP. Because the study was not planned with a pre/post study design, the correlation between

positive effect of nursing interventions and patient outcomes cannot be interpreted conclusively. In addition, no questions regarding experiences with pelvic floor exercises were included in the questionnaire. Finally, data from only six interviews provides limited material to fully explore patient experiences with incontinence at home.

CONCLUSIONS

Early post-operative incontinence following TURP and HoLEP is a frequent problem. For the majority of these patients, incontinence interferes with daily life.

Significantly, more patients received information on how to handle incontinence problems at home after patient information was developed, nurses were instructed how to teach patients, and nurses' awareness of the problem was increased. These results are strong arguments to improve nursing practice by developing patient education programmes regarding discharge and early post-operative incontinence. Nurses have the potential to provide advice to those who need it and can have a direct positive impact on patients' daily lives. Regularly scheduled telephone follow-up calls to the patients at home are an effective method to enhance safety in discharge management.

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WHAT IS KNOWN ABOUT THIS TOPIC

- Benign prostatic hyperplasia (BPH) is extremely common and affects most men over 70 years of age.
- Two effective treatments for most men diagnosed with BPH are TURP and HoLEP.
- Patients can suffer from lower urinary tract symptoms and early post-operative incontinence after TURP and HoLEP.

WHAT THIS PAPER ADDS

- Prevalence of early post-operative incontinence following TURP and HoLEP within 2 weeks after hospital discharge is about 35%. In the majority, low amounts of urine are lost.
- Early post-operative incontinence usually disappears quickly after discharge.
- Early post-operative incontinence interferes negatively with daily life for the majority of affected men.
- Sensitizing nurses about this topic, developing patient information and patient education significantly increases the number of patients who get adequate information about how to handle early post-operative incontinence.
- Nurses can have a positive impact on patient outcomes by providing advice.

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