



Medical approach to urinary retention after vaginal hysterectomy

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ABSTRACT

A 65 years old women presented with grade 3 descensus, grade 4 cystocele, grade 2 rectocele. The patient had no complaints of urinary incontinence. She underwent vaginal hysterectomy, colporrhaphy anterior, colporrhaphy posterior and sacrospinous fixation operations. On the postoperative first day, after removal of the catheter, the patient developed glob vesicale. The urinary retention was thought to be due to oedema secondary to surgical operation and urinary antiseptic and anti-inflammatory treatment was started. The catheter was removed 5 days later but re-inserted due to urinary retention. Alpha-adrenergic blocker (doxazosin) was added to the medical treatment. After 3 days, the catheter was removed, and spontaneous urination was observed and doxazosin treatment was stopped.

Keywords: Alpha-adrenergic blocker; urinary retention; vaginal hysterectomy

INTRODUCTION

Hysterectomy is one of the most widely used major surgical procedures in gynaecology practice.¹ Patient's anatomy is important as well as the experience of the surgeon in the choice of laparotomic, vaginal or laparoscopic approaches. Vaginal hysterectomy is the most preferred method in the cases of prolapsus. The advantages of vaginal hysterectomy are lower rates of infection, fewer complications, less pain, shorter hospital stay, shorter operating time and better cosmetic outcome. Micturition difficulty and urinary retention are common complications after abdominal or vaginal hysterectomy.

There are various medications for treatment of postoperative urinary retention, including cholinergic agents, anticholinesterase agents, alpha-blockers, sedatives and prostaglandin.^{2,3}

Neostigmine is an acetylcholinesterase inhibitor or anticholinesterase agent. It causes accumulation of acetylcholine around the cholinergic nerve terminals.⁴ Urinary bladder

contraction is critically dependent on acetylcholine-induced stimulation of contractile muscarinic receptors on the smooth muscle (detrusor) of the urinary bladder.^{5,6} Intramuscular injection of neostigmine is only effective in 70% of patients, and it is associated with many side effects such as bradycardia, bronchoconstriction, increased secretions, nausea, and vomiting.⁷

Alpha-adrenergic receptors are located in the bladder neck and proximal urethra, and blocking these receptors with alpha-blockers may facilitate urine flow and prevent postoperative urinary retention.⁸

In this report, we aimed to present the medical management of the patient who underwent vaginal hysterectomy, colporrhaphy anterior, colporrhaphy posterior and sacrospinous fixation and developed urinary retention after catheter removal.

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CASE REPORT

A 65-year-old female patient (gravida: 3, parity: 2, abortus: 1) was admitted to the outpatient clinic with the complaint of uterine prolapse. The patient was prepared for operation due to grade 3 descensus, grade 4 cystocele, grade 2 rectocele on vaginal examination. The patient had no complaints of urinary incontinence. The patient's medical history revealed that she had been receiving medical treatment for hypertension and had been postmenopausal for 20 years. Preoperative complete blood count (Hb=12.3 g/dL), complete urinalysis and routine biochemical values were normal. In transvaginal ultrasonography, the uterus was atrophic and the endometrial thickness was 3 mm and there was no adnexal pathology. The patient underwent vaginal hysterectomy, colporrhaphy anterior, colporrhaphy posterior and sacrospinous fixation operations under spinal anaesthesia. After the surgery, a catheter into the bladder, and a vaginal pack were placed. On the postoperative first day, the patient had a haemoglobin value of 10.8 g/dL, and her vaginal pack and catheter were removed. After removal of the catheter, the patient developed globe vesicale (distended bladder), therefore foley catheter was inserted again. The urinary retention was thought due to oedema secondary to surgical operation and urinary antiseptic and anti-inflammatory treatment was started and urine culture was performed. The urine culture was negative and the catheter was removed 5 days later but reinserted due to urinary retention. Alpha-adrenergic blocker (doxazosin 1x8 mg/day) was added to the medical treatment. After 3 days, the catheter was removed, and spontaneous urination was observed and doxazosin treatment was stopped. The residual urine volume was 30 cc. The patient was discharged on the 11th postoperative day. Written informed consent was obtained from the patient for publication of this case report.

DISCUSSION

Vaginal hysterectomy with or without colporrhaphy is one of the most common surgical procedures for the treatment of symptomatic pelvic organ prolapse.⁹ In the literature, the incidence of postoperative urinary retention after any vaginal prolapse surgery is reported to be between 6% and 29%.¹⁰⁻¹² Known risk factors for urinary retention after vaginal prolapse surgery include advanced age, high-grade cystocele, severe intraoperative blood loss, levator and Kelly plication, postoperative pelvic hematoma, and removal of the catheter in a short time.^{12,13} In a study by Leung et al.,¹ it was found that postoperative urinary retention was more common in women older than 63 years. In our case, we think that the presence of advanced age and high-grade cystocele may be risk factors for urinary retention.

However, there is no consensus regarding the time of urinary catheter removal after vaginal propapsus surgery. In the literature, there was no significant difference in the rates of urinary retention between the removal of urinary catheter on postoperative day 1 and day 3 in some studies.¹⁴ However, a randomized controlled trial by Hakvoort et al.¹⁵ showed a significant difference in urinary retention between day 1 and day 5 catheter removal (recateterization rate 9-40%).

The longer the duration of catheterization, the greater the incidence of urinary tract infection and the duration of hospital stay. For this reason, we usually remove the urinary catheter on the 1st postoperative day. In the literature, the incidence of urinary retention after vaginal hysterectomy was 6-27%, while in our series we found 1.49% (1/67).

It is known that there are alpha-adrenergic receptors in urinary tract especially along the bladder neck and urethra.¹⁶ Stimulation of these receptors causes an increase in smooth muscle contraction and bladder neck resistance, whereas alpha-adrenergic blockage causes smooth muscle relaxation and a decrease in bladder output resistance.¹⁷ For many years, alpha-adrenergic blockers have been used for the treatment of benign prostatic hypertrophy to reduce resistance to the bladder neck and to relieve the flow of urine.

Livne et al.⁸ suggested that alpha-blockers should be used prophylactically in order to prevent urinary retention after abdominal or vaginal hysterectomy. The incidence of postoperative urinary retention in our hospital is quite low, because of this we do not use prophylactic alpha-adrenergic blockers.

In conclusion, urinary retention is common after vaginal hysterectomy. The course and clinical management of this process carry some difficulties for both the surgeon and the patient. We think that medical therapies such as alpha-adrenergic blockers may be useful in providing spontaneous micturition in patients who have no additional complication and palliative methods is not successful.

ETHICS

Informed Consent: Written informed consent was obtained from the patient for publication of this case report.

Peer-review: Externally peer-reviewed.

DISCLOSURES

Conflict of Interest: No conflict of interest was declared by the authors.

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