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Recurrency after Optical Internal Urethrotomy

A Comparative Study of Long-Term and Short-Term Catheter Treatment

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Key Words

Internal urethrotomy

Urethral stricture

Abstract

The rate of recurrence after internal urethrotomy a.m. Sachse was studied in a prospective, consecutive, randomized series of 43 patients using short-term (1 day) and long-term (14 days) postoperative catheter treatment. No significant difference was found between the two groups according to voiding interview, flowmetry and retrograde urethrography.

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Optical internal urethrotomy as described by Sachse [1] is a well-established treatment of urethral strictures. It is easy to perform and well tolerated even by frail patients. Sachse [1] reported a success rate of 80% and other authors report similar excellent results [2–5]. In a previous study on the results of the operation, 67% of our patients were reasonably satisfied, although persistent strictures could be demonstrated in 50% of the cases [6]. Recently, similar results have been reported by other authors [7]. The significance of the duration of the postoperative treatment with indwelling catheter is uncertain. The aim of this prospective, consecutive, randomized study is to determine whether long-term postoperative catheter treatment yields better results of the operation.

and a voided volume of at least 150 cm³ was aimed at. Retrograde urethrography was performed using a water-soluble contrast medium (Urografin®, 45%) injected through a 10F Foley catheter with the balloon inflated distally in the urethra. Two radiographs in 45° oblique positions were obtained during injection of the contrast medium guided by fluoroscopy. The internal urethrotomy was carried out in the 12 o'clock position under direct view with the cold cutting knife of Sachse's instrument. Strictures were incised to a caliber of 20F, allowing easy passage of the instrument into the bladder.

For the operation, patients were randomly allocated into two groups, one receiving catheter treatment for 1 day postoperatively, and another receiving catheter treatment for 14 days. Antibiotics were not administered routinely, but patients with urinary infections pre- or postoperatively were treated with antibiotics according to urine culture. Fisher's exact test was used for statistics.

Patients and Methods

66 consecutive patients with urethral strictures entered the study. Their age ranged from 24 to 85 years (median age 70 years). 9 patients had multiple strictures. 65% of the strictures were short falciform and 12% had a length of more than 10 mm.

The etiology of the strictures in 66 patients was as follows: 52 iatrogenic, 4 traumatic, 3 inflammatory, and 7 unknown. 49 of 52 iatrogenic strictures were caused by transurethral resection of the prostate.

All patients had voiding interview, flowmetry and retrograde urethrography performed preoperatively as well as 3 and 6 months postoperatively. A Disa flowmeter, type 517B, was used for flowmetry,

Results

Of the 66 patients admitted to the study, 23 patients did not complete the operative and postoperative programme. In 1 patient a very narrow stricture prevented passage of the instrument. 8 patients did not complete the postoperative catheter regimen, 7 of these belonging to the long-term catheter group, because of pain or infection.

The complication rate with short-term catheter treatment was 3%. 1 patient suffered sepsis responding to antibiotics. The complication rate with long-term catheter-

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Table I. Results of internal urethrotomy a.m. Sachse in 43 patients after short-term (group I) and long-term (group II) catheter treatment.

ter treatment was 15 % as 5 patients were treated for epi-didymitis. In 14 patients, 3- and 6-month follow-up was not completed (1 patient died, 2 patients moved to other parts of the country, 2 could not cooperate because of senility and 9 did not wish to participate in the follow up). Thus, the data in 43 patients were available for statistical analysis. 21 patients received catheter treatment for 1 day, and 22 patients had indwelling catheter for 14 days postoperatively. The groups are comparable with regard to etiology and extent of strictures. The results are listed in table I. At the voiding interview, 27 stated complete satisfaction, whereas 16 were dissatisfied with the results of the operation. Patients with a maximal flow rate of more than 17 ml/s were regarded as cured. Flow rates between 12 and 17 ml/s were considered improved, whereas maximal flow rates below 12 ml/s were taken as recurrence of the stricture. At retrograde urethrography, unchanged appearance of strictures was regarded as recurrence. Strictures of the same localization, but with a larger diameter than preoperatively, were considered improved. We found no significant differences at the 5 % confidence level between recurrence rates after optical internal urethrotomy using treatment with indwelling catheter for either 1 day or 14 days postoperatively. The results are based on flowmetry, urethrography and voiding interview.

Discussion

It is generally assumed that optical internal urethrotomy gives satisfactory or excellent results in 70–90% of the cases [1–5]. Our results in a consecutive series of patients with urethral strictures are less encouraging. We do not think this can be explained by differences in the operative technique. One explanation may be that our patient material is consecutive containing several patients with multiple strictures, and patients with recurring strictures, many of them treated several times previously.

The present study was designed to find out if better results could be obtained by using catheter treatment for 14 days postoperatively. We find that the duration of postoperative catheter

treatment does not influence the recurrence rate. Considering the increase in complication rate and great discomfort connected with long-term catheter treatment, a considerable improvement in the long-term catheter group should be obtained, if this regimen were to be recommended. We thus consider the calculated risk (15–20%) of overlooking a reduction in recurrence rates in the order of magnitude of 50% by using long-term catheter treatment acceptable. Postoperative catheter treatment of even longer duration is in our opinion not to be recommended in dealing with strictures.

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