

THE TREATMENT OF URETHRAL STRICTURES*

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In our country due to frequent accidental injuries urethral strictures are seen occasionally. How should these urethral strictures, which cause morbidity and sometimes threaten the life of the patient, be managed? We cannot give an exact answer to this question as procedures and techniques of operation are various. What is the classical procedure? This is even still under discussion. In order to clarify this problem 110 cases of simple and complex urethral stricture were investigated and treated in the Urology Department of the Gülhane Military Academy of Medicine between the years 1979 and 1984. Internal urethrotomy was carried out on 74 of the above cases which had simple strictures. These have just been explained. The other 30 cases underwent various urethroplastic operations. Six cases are still under intermittent dilatation.

TABLE I
Thirty Cases of Urethroplasty

	<u>Cases</u>	<u>Successes</u>	<u>Failures</u>
Pupectomy-Urethroplasty - with 'push-in' sleeve and t. vaginalis support	4	4	—
Urethroplasty - with 'push-in' sleeve and omental support	1	1	—
Excision of the strictures and end-to-end anastomosis	6	5	1
Repair of the fistulae, urethrocutaneous and urethrorectal	6	3	3
U Flap meatoplasty	10	9	1
Traumatic urethral rupture reparations	3	3	—
Total	30	25	5

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30 cases are seen in Table I. Eleven of these cases had cystostomies for derivation of urine in other military hospitals. All of these had complex urethral strictures. The etiological factors were accidental trauma. As can be seen in the Table, after complex urethral strictures were removed, end-to-end anastomoses and "push in" sleeve anastomoses were carried out. All operations were stage I urethroplasties. In one of them omentum was used as the support tissue. In the others, the tunica vaginalis of the left testicle was used as the support tissue. As far as I know this had never been done before. The details will be explained when the operation technique is described. In the four unsuccessful cases, internal urethrotomy was carried out later.

Technique of Operation

First the patient is laid down in the lithotomy position. The incision which is in the shape of an inverted "U" is made on the perineum, starting just over the two ischial tuberosities. After cutting through the skin, subcutaneous connective tissue is dissected. These two layers take the U-flap shape. The aim is, if necessary, to perform a stage-II urethroplasty. The bulbocavernosus muscles are drawn aside so as to expose the urethra. It is possible to insert a metal sound via the meatus in order to dissect the urethra in the best way. At the same time this will indicate the site of the stricture. After the stricture has been reached, the urethra is dissected in distal and proximal directions. The urethra is then cut from the place where the stricture starts and the distal end is sutured for fixation. The penile urethra is dissected. The urethral stricture and the surrounding scar tissue or fistula are removed. The corpus spongiosum at the end of the urethra is cut and removed and in this way the urethra is lengthened. Four Atraumatic "4-0" Dexon sutures are stitched in this end of the urethra. At the same time, an assistant opens the bladder slowly and pulls these sutures from the posterior urethra to the bladder neck. The surgeon then carefully pushes the end of the urethra to the posterior urethra. These two ends will meet at the place of anastomosis. For the stitching of the anastomosis, which is done in several places "4-0" Dexon suture material is used. In the meantime, the assistant will fix another suture to the bladder neck. These sutures will hold both ends of the urethra together. The tunica vaginalis surrounding the left testis is opened and inverted and then dissected with a pedicle. This is then wrapped around the urethra and stitched to the adjacent tissues. The tunica vaginalis will thus replace the dead area and serve as support tissue.

Since tunica vaginalis is of peritoneal origin it has the following advantages:

1. As a support tissue around the anastomosis, it prevents the formation of scar tissue and reduces the leakage of urine from the anastomosis.
2. It drains the lymph.
3. It prevents infection.

All layers are stitched. A penrose drain is used.

The success rate is high in the operations where omentum and tunica vaginalis are used. The period for the indwelling catheter is four weeks. The bladder is irrigated with 5% asetic acid solution in order to prevent stone formation and infection of the bladder. For the urethra catheterization we are using 20-24 Ch Foley and Nelaton catheters, not the fenestrated ones. There was incontinence of urine in none of our cases neither preoperatively nor postoperatively, but in some cases where there was impotence preoperatively it continued postoperatively.

Conclusion

In the management of urethral strictures:

1. All urethral strictures should be fully investigated (length, cause, localization and calibration) and the appropriate operation technique should be decided pre-operatively.
2. For simple strictures, urethrotomy intern under vision should be tried first. For long strictures urethroplasty is called for.
3. In cases of complex urethral stricture, support tissues such as omentum or tunica vaginalis testis, should be used during urethroplasty.
4. Every patient who has undergone an operation for urethral stricture should be followed up and examined every six months.

DISCUSSION

Wickham: Any questions, first of all, for Professor Blandy?

Dajani: Do you always do a urethrogram before a urethroplasty? Is it a must?

Blandy: Yes, I think all my patients have had the urethrogram. Often it doesn't help; it doesn't tell you the full extent of the stricture but I think before doing urethroplasty, all my patients have had it.

Khalifa: How often do you think a urethrogram gives you the full truth of a stricture?

Blandy: Oh, I don't think it does, ever. But it's nice to plan the operation a little bit and to warn the patient what he's in for. And I get some idea of what I'm doing with a urethrogram.

Remzi: I would like to ask Professor Blandy about a case that we're in trouble with just now. This particular patient had a short posterior urethral stricture; we did a segmental resection and an end to end anastomosis. After removal of the catheter

he was unable to urinate, but there was no demonstrable urethral stricture. Have you any suggestions to make?

Blandy: What's his age?

Remzi: Young, under thirty.

Blandy: Well I just wonder, probably this has occurred to you, but there is a trap, one that I've fallen into. Patients have been sent to me and I do a urethroplasty and anastomosis to what seems to be the upstream channel and it all looks good; but the fact of the matter is, it may not be the real channel; and it's jolly easy to make your anastomosis onto the wrong bit.

Remzi: Not in this case.

Blandy: No. Well I don't know.

Hargreave: Have you urethroscoped it?

Remzi: Yes, we have. We were not able to show any obstruction.

Blandy: Well, I think you'd have to have urodynamics.

Khalifa: Could it be a mucosal fold?

Blandy: Well, I don't know. I haven't seen the case.

Tellaloğlu: May I ask if you have had any experience of septic shock in cases of stricture? We had in a case of a simple, very short stricture in a young man of about 43 years of age who was physically fit and had no other complaint. The operation was followed almost immediately by septic shock. Have you had a like experience, a very small stricture and then septic shock?

Hargreave: Certainly; that is why it is our practice to give these patients a shot of a broad spectrum antibiotic.

Tellaloğlu: I did in this case; he was on nalidixic acid for three days before the operation.

Blandy: We used to call this catheter fever when I was student, and there was a hundred percent mortality rate with it. They used to come up from the venereal diseases department with catheter fever and they were dead before the morning. They don't do that now but I think in any procedure in urology however minor, you must always bear in mind the possibility of septic shock.

Wickham: I agree, always.

Blandy: We've had two cases in a series of 200 patients.

Wickham: I'd just like to say I find nalidixic acid a most ineffective urinary antibiotic and recommend gentamicin as a pre-operative one-shot.

Tellaloğlu: The culture we took was sensitive to nalidixic.

Wickham: Just the same, in my experience, nalidixic acid is a useless urinary antibiotic.

Whitaker: I wish some one could persuade the manufacturers of equipment to make smaller instruments for such procedures. With the present size you start off with a wonderful view and it fits fairly snugly into the urethra and as you get nearer and nearer suddenly the thing clouds up, there's no flow around the side of it and you can't see at all. If you push it back an inch you get a wonderful view of the urethra. Back in and only blood again. I'm sure you've all had the experience.

Hargreave: Can I ask you a question, Professor Blandy; why do you still do urethrotomy?

Blandy: Well, I recently read a prospective, randomized study from one of the Scandinavian countries about bougienage versus urethrotomy. It would appear there is no difference at all. It's a fashion.

Hussien: Professor Blandy, I believe you said that sometimes you allowed a delay before repairing a urethra. How long a delay would you consider permissible?

Blandy: I think it depends on the circumstances of the patient. Compared with you, I think our experience of ruptured urethras is small. Of the cases I had in mind, you know, we don't often have a choice as to what can be done during the first 24 hours because the patient has a craniotomy, a stove-in chest and 25 other different needs and monitors. I would like to get in there within the first week if possible, before it's all stuck and horrible. Does that answer the question? I can't generalize.

Hussien: When it comes to readjusting the pelvis, do you have no worries about the pelvic bones?

Blandy: Oh, with the fixation of the pelvis we get on to our orthopedic team who are very keen on the nursing of the patient whose pelvis is being fixed with that apparatus I described which looks dreadful but is, in fact, wonderful. You can turn the patient in it, they have no pain, they don't get bedsores, and curiously enough they can even ambulate within about a week with it. It looks frightful but it's a marvellous gadget. I may even add that the majority of cases I've had, I think, have arrived with a displaced, fractured pelvis and they'd been in the hands of presumably good orthopods who'd not been able to get it straight with conventional trapping.