

EDITORIAL: ENDOSCOPY AND DILATION OF URETHRAL DEFECTS AND STRICTURES

The preceding 2 articles in this issue of the Journal address the treatment of urethral defects or strictures using optical urethrotomy or urethral dilation. Goel et al (page 95) discuss core through internal urethrotomy for obliterative urethral defects following pelvic fracture injury to the posterior urethra. Steenkamp et al (page 98) discuss a different topic, that is comparison of internal urethrotomy versus dilation for strictures of the various parts of the urethra as opposed to obliterative defects. These topics are truly different, and the philosophy, technique and results in 1 group do not necessarily extrapolate to the other.

Treatment of pelvic fracture urethral distraction defects (a term coined by Turner-Warwick) has been a source of controversy for decades. In question are the timing and type of therapy. Timing options include immediate, delayed primary (early post-injury period when the patient has recovered from associated trauma) and secondary (3 to 6-month delay) therapy. Procedural options include early simple realignment of the urethra over a stenting catheter, later cut to the light techniques performed once pelvic floor hematoma has organized and surgical repair as a delayed primary technique or as secondary urethroplasty (by a perineal or abdominoperineal urethral reanastomosis repair or by substitution urethroplasty in 1 or 2 stages). This abundance of techniques bears witness to the lack of consensus regarding an optimal approach. Indeed, there probably is no optimal approach, and timing and technique should likely be selected based on a variety of factors, not the least of which are the magnitude and extent of the nonurological injuries because these will determine the appropriateness of primary realignment. Many advocate placement of a suprapubic catheter on the night of injury because the patient may then be selected for safe delayed primary management in the early or intermediate post-injury period when recovery from co-morbidities is assured, or he may undergo later urethroplasty. Such early treatment may involve realignment over a stenting catheter (using either endoscopic, linking sound or magnetic catheter techniques) or open surgical reanastomosis. The realignment techniques anticipate the nonstrictured healing of the stented urethra and certainly reports indicate that such an outcome is frequent. If this is, indeed, the case it would seem that the current search should be for the ideal realignment technique, and certainly the least morbid technique would seem optimal. Magnetic linking stents constitute an exciting new option. Surgical reanastomosis at this early stage also shows good results with almost a certainty of stricture-free healing but there is greater morbidity, and early postoperative pelvic surgery may be precluded by associated pelvic and lower extremity injuries.

Goel et al discuss treatment of the patient some weeks or months following injury, in whom there has been organization of the hematoma and a fibrotic obliterative defect exists. Many techniques have been proposed to cut through the urethral scar to reestablish urethral continuity, including cutting to the light, cutting along a stilet or needle that has been guided endoscopically across the obliteration between the 2 urethral ends and radiographically guided scar incision (as used by Goel et al). Once continuity is established the scar is judiciously incised or excised, or dilated and left stented for a variable interval, following which most advocate a period of self-calibration in the anticipation that the core through channel will epithelialize and stabilize. Success in small se-

ries has been good and this technique, as suggested by Goel et al, remains one to be strongly considered. This technique awaits standardization with respect to the optimal timing and method of its performance, although it may be that these will vary from case to case. Patient selection criteria for this technique must be established, particularly with respect to the length of the defect that might be appropriate. Experience with this method suggests that 2 skilled endoscopists are needed and certainly the operation is not without risks, with the most feared complications being rectal injury and creation of a channel alongside the prostatic urethra. Advocates of the technique cite preservation of the distal sphincter mechanism and potency as potential advantages.

Goel et al cite dated literature in their comments on the poor outcome of urethroplasty in these circumstances. Current experience with bulboprosthetic anastomotic urethroplasty certainly shows more than a 90% success rate with low morbidity, requiring 3 days of hospitalization and with a slight risk of erectile dysfunction or incontinence. This technique requires some experience with perineal surgery but its results with all lengths of defects suggest that it is the current gold standard. The authors cite some historical but classic reports on the surgical treatment of pelvic fracture injuries, and it is important to recognize that such staged surgical techniques are rarely used in the current era and that their results should not be used for comparison. It is evident that treatment of pelvic fracture distraction defects continues to evolve with respect to all of the aforementioned variables and, while the outcome is generally good in the hands of those with expertise in the field, surgeons less accustomed to the treatment of such problems might best place a suprapubic tube at injury and plan for the patient to undergo perineal anastomotic urethroplasty at 3 months or later.

Steenkamp et al address treatment of stricture (not obliteration) at all locations of the urethra by dilation or urethrotomy. Their prospective study is unique and suggests that we lay to rest the question of which is best, dilation or urethrotomy, with the answer appearing to be neither. This randomized study of 210 men with seemingly comparable stricture characteristics in each group showed excellent followup. Indeed the implication of the text is that retrograde urethrography was performed at each of 7 followup visits. Not surprisingly, stricture length appears to be the main determinant of success. However, it is surprising that stricture location had little impact. Penile location was purportedly associated with a poorer result but the numbers were not statistically significant. I and others have found pendulous (including penoscrotal) strictures to be treated less successfully endoscopically or by dilation. Steenkamp et al do not address the issue of the depth of spongiositis at the stricture site, which would logically seem to be an important factor regarding outcome. Previous investigators have attempted to do this by ultrasound examination of the urethra, and then to use this information to decide on the feasibility of repetitive dilation or urethrotomy versus urethroplasty.

All patients studied were treated using local anesthesia and, while it is practiced by many in the United States, this is worthy of emphasis. The futility and, perhaps, even the jeopardy of repeated dilation and urethrotomy as curative procedures are widely accepted. Ziprin et al recently ad-

ressed this issue and, indeed, even extrapolated to suggest that subsequent urethroplasty has a greater risk of failure in cases treated with too frequent urethrotomies preoperatively.¹ To some degree this article addresses the issue of when "enough is enough," although only after more than 3 stricture recurrences requiring treatment within 1 year did the authors resort to urethroplasty. When to pursue surgical urethroplasty obviously requires careful consideration and many variables will impact on this decision. However, it should be recognized that, while not curative, long-term repeated dilation is certainly preferable to inexpert urethroplasty. This article has the potential to influence current

practice significantly. Dilation is simpler, more accessible and more economic than urethrotomy, and now appears to be equally effective.¹

*George D. Webster
Division of Urology
Duke University Medical Center
Durham, North Carolina*

1. Ziprin, P., Wheeler, J., Davies, G. and Stephenson, T. P.: The long-term followup of urethroplasty for non-traumatic urethral strictures. *Brit. J. Urol., suppl. 1, 77: 2, abstract 9, 1996.*