IMPORTANCE OF SUPPLEMENTING RETROGRADE WITH VOIDING URETHROGRAM IN URETHRAL STRICTURES

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INTRODUCTION

Urologists, who are interested in plastic repair of male urethral strictures, know that it is important to recognize the full extent of the stricture before deciding one stage or two stage "Urethro-plasty". The diagnosis of urethral stricture is suspected by the history. Sometime, it is observed by meeting an obstruction to pass an instrument through the urethra. But it is common to do urethrogram (R.U.G).

This is an excellent investigation to demonstrate the penile, bulbar and membraneous portion of the urethra.

However, this method usually fails to demonstrate the prostatic urethra because the urethral and vesical sphincters are closed. If a complete study of the urethra is desired, then the retrograde urethrogram must be supplemented by a "Voiding cysto-urethrogram" (V.U.G). Flow of the medium through the strictured urethra will be diminished by the obstruction, and the urethra, distal to obstruction in voiding urethrogram (V.U.G.) and proximal to obstruction in retrograde urethrogram (R.U.G) will not be properly delineated, if only one method is employed.

CASE REPORT

A 55 years old patient presented to us with suprapubic drainage for total urinary retention. While he was abroad at Saudi Arabia he had a fall on 18.03.1995, sustaining perineal trauma, with urethral injury and bleeding. He remained on suprapubic urinary diversion for 10 weeks. When he returned to Pakistan, he consulted a Surgeon at Hayat Shaheed Teaching Hospital, Peshawar. Where he was offered repeated rail road catheterization.

Retrograde urethrogram taken, after the failure of rail-road procedures, showed complete blockage at the bulbar urethra (Fig-I).

In September, 1995 he was referred to Lahore from Hayat Shaheed Teaching Hospital, Peshawar, where internal optical urethrotomy was done twice at an interval of three weeks. Both the times, removal of catheter after urethrotomy resulted in total urinary retention.

The patient was then discharged on 02.12.1995, from Mayo Hospital, Lahore with supra-pubic drainage tube. After consulting with us on 24.12/1995, voiding urethrogram (V.U.G) was done by the method described by Fitts' (Fig-IV). Ana-
lyzing both the voiding and retrograde urethrogram it was decided to do one stage urethroplasty through perineal approach.

Fibrous tissues were excised and after mobilization of the proximal and distal normal urethra, spatulated end to end anastomosis was done over a Foley’s catheter, with 4/0 chromic cat gut. Bulbous muscle were loosely approximated with 2/0 chromic and skin closed with silk. Catheter and stitches were removed on 10th post operative day and a voiding urethrogram taken on 15th post operative day (Fig-V).

DISCUSSION

Various clamps and devices are available for injection of contrast material. However, the simplest urethographic device is a Foley’s catheter. The catheter is inserted so that its balloon gently inflated in the fossa navicularis till the patient feels a sense of fullness but should not experience pain. Contrast medium suitable for intravenous injection can be used for these studies. The urethra involved in stricture disease is friable and even with gentle injection, intravascular extravasation can occur. A 50 ml syringe is used, the foley’s catheter is filled with contrast medium before insertion in order to eliminate all bubbles.

With the patient in the right posterior oblique position, the right thigh is drawn up to a 90 degree angle. The left thigh is extended and the penis is placed along the axis of the right thigh. When three quarters of the syringe is slowly and steadily injected, the exposure is made while the injection continues.

It is not recommended to get voiding urethrogram after filling the bladder through small catheters or tubes for various reasons. Instead we prefer excretory urography. This can be done as a part of excretory urography or the upper tract can be excluded, if not needed.

We follow the technique described by Fitts. One milliliter of urographic contrast material per pound of body weight is injected. The patient is asked to drink as many glasses of water as he can until he feels the urge to void. After a scout film of urethra, the patient is asked to void into a urinal, and a film is made, while the patient is maintaining his urinary stream. Usually two films are taken.

Even in the presence of significant urethral narrowing, adequate distal filling of the urethra can be achieved.

Urethral strictures are no more considered a life long disability. Stricture causes obstruction to the flow of urine and produce symptoms such as reduced caliber with diminished urinary stream and the necessity to exert force during urination.

Nocturia, frequency, urgency and stage voiding develops when the bladder reaches to the stage of decompensation.

The diagnosis is suspected by history associated with these symptoms. Cole 1974
have suggested the studies of urinary flow rates to be more informative than the patient's subjective symptoms.

Urethroscopy is helpful in detecting the site of lesion, however, it is difficult to evaluate the full extent of the stricture. Urethrogram is therefore considered the Gold standard of diagnosis and to define the full extent of the stricture.

It is a common practice to do retrograde urethrogram (R.U.G) or voiding urethrogram (V.U.G), separately. However, it is recommended to supplement anyone procedure with the other in different cases.

In our present reported case, we understand that the only retrograde urethrogram (R.U.G) was not helpful in deciding the treatment options including the three attempts of rail roading at Hayat Shaheed Teaching Hospital, Peshawar and the two attempts of internal optical urethrotomies at Mayo Hospital, Lahore.

Fig-II shows retrograde urethrogram (R.U.G) which was done before rail roading.

We understand that internal optical urethrotomy would have been beneficial at this stage instead of rail roading because the narrow segment seen in the X-ray film was a guiding opening for the urethrotomy scalpel.4

Urethrogram (R.U.G) done after rail roading (Fig-III) shows blind ending urethra and complete obstruction. Internal optical urethrotomy in such cases, is not only difficult but could prove dangerous because of cutting in through a false passage.

Fig-IV is voiding urethrogram (V.U.G) done by us which shows complete obstruction at the bulb urethra.


Excision of the stricture and spatulated end to end anastomosis in this case resulted in complete cure and a normal urethrogram (V.U.G) done fifteen days after operation (Fig-V).
REFERENCES


