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Realignment should be performed at 10 to 14 days post injury, before significant scarring occurs, while the tissues are pliable & other vital injuries have been sorted out. Bleeding has not been a problem. Endoscopic management permits anatomic realignment of urethra.

Self catheterisation has an important role in the therapy as none of our patients so treated, developed difficult strictures. All of our patients were easily managed by Cystoscopy & dilatation of their soft short strictures. Six month period of self catheterisation is sufficient, during which the healing process stabilises. It does not produce further trauma to the neural plexus or to periurethral & periprostatic tissues, resulting in impotence. It does not adversely affect subsequent urethroplasty if so required.

In summary, primary endoscopic realignment for posterior urethral disruption, is least invasive treatment modality in patients with multiple injuries, without adding further to the trauma. The time required to rehabilitate the patient is significantly reduced.

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days for one week, then twice weekly for two weeks & finally once weekly for 5 months. Failure to pass catheter at any stage required Urethrocystoscopy & dilatation with 21 Fr. sheath or visual urethrotomy. Follow up evaluation was done at 3 monthly interval.

Results (Table # 1)

| AGE (Yrs.) | D/Opern. (Days) | H/Stay (Days) | Cysto Dilatn. (Months) | F.U. (Months.) | Complication |
|------------|-----------------|---------------|------------------------|----------------|---------------------------|
| AJ. 17 | 12th. | 24 | 2 & 4 | 12 | None |
| MS. 22 | 11th. | 21 | 2 & 5 | 27 | P. Impotent @ Incontinent |
| IA. 18 | 14th. | 22 | 3 & 7 | 24 | None |
| NA. 30* | 13th. | 29 | 2 & 4 | 12 | None |

@ Vaginal penetration possible but less than satisfactory.

* External fixators applied on day of admission for # pelvis.

Results: (Table 1)

3 cases achieved excellent results and are continent, potent and voiding normally. However 1 case is incontinent, stricture free and on self catheterisation. His impotence improved partially ever since successful Papaverine trial by which he regained self confidence although he has retrograde ejaculation. None of these cases required urethroplasty. Patients were hospitalised for 21 to 29 days (mean 24 days).

Discussion

Primary realignment after open cystostomy, evacuation of hematoma, perivesicle & periurethral drainage with or without traction was the recommendation about 20 years ago. Realignment was done by sound to sound, interlocking sounds or sound to finger techniques⁴. However there is risk of creating false passage as the procedure (is blind. In 1972, Morehouse et. al,⁴ published their results of primary cystostomy with delayed elective

urethroplasty in 11 patients, comparing it with the results of primary realignment in 27 patients. It showed 100% stricture rate & a very high incidence of incontinence & impotence after primary realignment, unlike 11 unselected patients who underwent primary cystostomy with delayed elective urethroplasty. However the study suffered from selection bias as all cases in the study had been referred for treatment of serious urethral strictures. In 1972, Lucey et al, published their series of 14 cases with posterior urethral injuries, treated with primary realignment & found a 25% stricture rate⁷.

Results of delayed two stage urethroplasty in 11 cases of posterior urethral injury were published in 1977 by Coffield & Weems⁸, when no incidence of post operative stricture, incontinence or impotence was found, compared to 9 similar patients treated by primary realignment, of whom 7 developed stricture, 2 were incontinent & 3 were impotent. However the method of primary repair was not specified & the total number of patients was small. In 1980 Morehouse & Mackinnon published their excellent results in 60 patients, treated with delayed 2 stage reconstruction⁹. In 1983, the results of 29 patients treated at Mayo Clinic with primary realignment using Davis interlocking sounds were published, when only 1 patient required formal urethroplasty & 4 were impotent¹⁰.

In 1982 Lieberman & Barry published good results in 4 patients treated with delayed endoscopic reconstruction using direct vision urethrotome¹¹. Subsequently more series of delayed endoscopic reconstruction have been published¹²⁻¹⁵. In 1987 Towler & Eisen reported primary endoscopic realignment at about 2 weeks post trauma in 4 cases, 2 of which required internal urethrotomies with over all good results¹⁶.

All of our 4 cases had complete disruption of posterior urethra. good results were obtained in all cases except one who has total incontinence of urine, managed with intermittent self catheterisation. There was decreased morbidity associated with this procedure as it is least invasive compared with the other treatment options available.

ENDOSCOPIC MANAGEMENT OF POSTERIOR URETHRAL DISRUPTION ASSOCIATED WITH FRACTURE PELVIS

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Summary

"We managed 4 cases of posterior urethral disruption following fracture pelvis, by endoscopic realignment, 11 to 14 days after injury. We used rigid endoscopes through suprapubic tract and distal urethra, for the procedure. A guide wire was passed through suprapubic cystoscope into the urinary bladder & across the disrupted posterior urethra into the distal urethra. Silicone Foleys type catheter was passed per urethra over guide wire into the bladder for 4 weeks. Intermittent self catheterisation was advised for 6 months after removal of urethral & suprapubic catheters. Good results were achieved in 3 cases, who are stricture free, continent and potent. One patient is stricture free, potent but is incontinent of urine. This technique has reduced morbidity rate and does not adversely affect subsequent urethroplasty, if so required".

Introduction

Management of posterior urethral injury is going through evolution. It occurs in 10% cases of fracture pelvis³. Emergency suprapubic catheterisation is safer compared to urethral catheterisation which may convert partial urethral tear into complete disruption, with added morbidity¹. The standard treatment is suprapubic bladder drainage followed by delayed repair, after 4 to 6 months²⁻³. Primary repair went into disrepute because of poor long term results^{4,5}. Delayed repair instead had better results⁵. However interest in primary realignment has re-emerged since the reports published by Gelbard et, al.⁶. We report our four cases of endoscopic realignment, which were followed up from 12 to 30 months (mean 24

months).

Materials and Methods:

During the period January 1990 to June 1991 (18 months), 4 patients, 17 to 30 years of age (mean 22 years), with posterior urethral injury following fracture of pelvis, were treated. Suprapubic stab cystostomy was done as emergency procedure, leaving in 12 Fr. pigtail cystostomy catheter (Vesico Set, ANGIOMED). Once the patient was stabilised and after management of other more vital injuries, endoscopic realignment was done at 11 to 14 days (mean 13 days).

All patients received aminoglycoside plus cephalosporin as prophylaxis or antibiotics according to culture and sensitivity. Urethrocystoscopy was done. On confirmation of complete posterior urethral disruption with failure to negotiate into the proximal urethra & bladder, suprapubic cystostomy tract was dilated & rigid 17 Fr. Cystoscope with 70 degrees telescope, was passed over 0.038" floppy tip teflon guide wire, into the bladder. This guide wire was passed across the bladder neck, into posterior urethra. It was retrieved by flexible biopsy forceps passed through 21 Fr. Cystoscope per urethra & brought out through the external meatus. 16 Fr. Silicone Foley's type catheter with end eye was passed over guide wire into the bladder & its balloon inflated. Suprapubic catheter was retained for 4 weeks to divert urine. Bleeding was not a problem during the procedure & none required blood transfusion. No traction was applied. Urethral and Suprapubic catheters were removed after 4 weeks. After their removal, patients were advised self catheterisation with 16 Fr. Nelaton catheter & Lignocaine jelly, for 6 months. Patients were trained to pass catheter once daily for one week, on alternate

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