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Usefullness and Limitation of Endoscopic Internal Urethrotomy In Stricture Urethra

***Dr. Vipul Gurjar ** Dr. Vicky Ajwani**
***** Dr. R.P. Bharaney**
Reffered by —Dr. J.P. Mehata[1]

***M.S.-GENERAL SURGEON, DEPT. OF SURGERY, ASSIST. PROFSSOR IN SBKS MEDICAL COLLEGE, SUMANDEEP UNIVERSITY, PIPARIA, GUJARAT.**
****M.S.-GENERAL SURGEON, DEPT. OF SURGERY, PROFESSOR IN SBKS MEDICAL COLLEGE, SUMANDEEP UNIVERSITY, PIPARIA, GUJARAT.**
*****M.S.-GENERAL SURGEON, DEPT. OF SURGERY, PROFESSOR & HEAD IN SBKS MEDICAL COLLEGE, SUMANDEEP UNIVERSITY, PIPARIA, GUJARAT.**
1. M.S.-GENERAL SURGEON, PROFESSOR AND VICE -CHANCELLOR, SBKS MEDICAL COLLEGE, SUMANDEEP UNIVERSITY, PIPARIA.

A B S T R A C T

AIM AND OBJECT: *To evaluate the current role of internal urethrotomy in stricture urethra and define it's limitation, role in post urethroplasty stricture and it's complication.*
MATERIAL AND MATHOD: *A 50 cases operated with o degree scope of internal urethrotomy. We've included strictures due to trama (32%), infection (38%), iatrogenic (30%). We've done urethrotomy in previously treated cases of dilatation (21), VIU (09), Rail roading (08), and posturethroplasty stricture (06). Also we did it in different site of urethral stricture including prostatic (8%), membranous (20%), bulbo-membranous (26%), bulbous (18%) and penile (6%) urethral stricture.We have also considered number of stricture in urethra like single (22), double (10), multiple (12), and post anastomatic (8). RESULT: Overall results are Good in 75%, Satisfactory in 15%, and Poor in 10% cases. It has complication of bleeding in 1%, false passage in 2%, Hematoma in 2% and recurrence in 30% of cases. CONCLUSION: The internal urethrotomy for stricture urethra is safe, easy, and effective with minimum morbidity and mortality. And also good option for post urethroplasty stricture.*

KEY WORDS: Urethral stricture; internal urethrotomy (VIU).

INTRODUCTION:

The urethral stricture defines as decrease in the caliber of the urethra. It is mainly caused by congenital, inflammatory, iatrogenic (long term catheter, cystoscopy etc.), traumatic, post surgery (TURP,Urethroplasty etc.), post radiotherapy and due to malignancy. The symptoms of urethral strictures are difficulty in passing urine, frequency, Burning micturation, Weak stream and retention of urine. Untreated urethral stricture may cause

periurethral abcess, urethral fistula, urethral diverticulum, chordee, upper urinary tract infection, and septicemia. There is different modality of treatment like open urethroplasty, dilatation, prosthetic stent and internal urethrotomy (VIU) are available. So here we are studying 50 cases to evaluate usefulness and limitation of endoscopic internal urethrotomy for stricture urethra.

MATERIAL AND METHOD:

We have operated 50 cases in our Institute of Sumandeep University during period of years 2005-2009 of stricture urethra by VIU. We have included stricture of anterior urethra, bulbur urethra, membranous urethra, post urethroplasty (Anastomotic), post prostatectomy and also long fibrous strictures. And excluded cases are urinary tract infection, urethral abscess, urethral fistula, urethral infected diverticula, urethral stone, meatal and fossa navicularis stricture, post prostatectomy membranous stricture in the region of external sphincter and where the urethra has been grossly displaced and there is no hope of being able to incise to normal tissue. Before surgery we have assessed the patients in means of present complain, past history of trauma, infection, operation and complication of past treatment. We have done basic blood investigation and ultrasonography, and special Radiographic investigation like Anterior urethrography(AUG), Micturating cystourethrography (MCU), Uroflometry. We have given preoperative antibiotic Inj. Ceftriaxone (1 gm) i.v. before induction of anesthesia. We have preferred lithotomic position and Spinal or General Anesthesia. We have used 0 degree telescope with working elements. After lubrication of sheath with lignocain gelly 2 %, it was introduced into external meatus with irrigate running to avoid air bubbles being trapped in the urethra. The stricture was ecognized by its small ring like aspect. Whenever possible the stricture should catheterize with guide wire to prevent false passage during urethrotomy. The stricture once, catheterized, is incised at the 12 o'clock position along the guide wire. The method of cutting is important, that cuts are made with a deliberate 'en- lock' movement of whole instrument, and the incision is carried through the entire thickness of the urethra until no more transverse fibrous band can be seen at the 12 o'clock position. The urethrotomy should extend into the healthy urethra on both proximal and distal ends of the stricture for 1-2 cms. If the lumen at the site of the stricture is eccentric, so that it lies near the roof of the urethra, additional cuts may be needed usually at 6'oclock some surgeon routinely make cut at 4, 8, and 12 o'clock position-the 'mercede's cuts'.

Once the stricture is completely incised and haemostasis is secured and a Foley's catheter of slightly undersize is inserted.

Post-operatively, patient is advised antibiotic for 5 to 10 days according to urine culture reports. Due to irritant effect of catheter we try to keep it for minimum period. In case of short stricture catheter is removed in 3-5 days. In case of dense strictures catheter is removed after 7-10 days. After discharge we have made follow up at 15 days, 1 month and than every 3 month for 1 year. At the time of follow up patient is evaluated for 1. Symptom if any 2. Urine culture if UTI is suspected 3. Uroflometry, AUG or Urethrocopy if needed. By all these means patients are classified in three categories to know outcome of procedure.

1. GOOD: No symptoms, Good Stream, Uroflometry showing average flow

2. rate more than 15 ml/sec, Urine culture suggesting no organism, and Normal AUG.

3. SATISFACTORY: Persistent symptoms, Weak stream, Uroflometry showing flow rate less than 10 ml/sec., Urine culture suggesting may or may not postivity, and AUG shows persistent narrowing. In this patient repeat urethroscopy and repeat urethrotomy done. In next follow up there status was evaluated.

4. UNSATISFACTORY OR POOR: Even after second urethrotomy if patient has persistant symptoms, Weak stream less than 10 ml/sec on Uroflometry, Urine culture may or may not positive, Persistent narrowing in AUG consider as poor. And patient is advised other modality of treatment. As far as etiology is concerned our series is comparable to A.D. Desmond and G.H. Tilak. In our series no cases was noted with congenital or idiopathic stricture.

Fig 1: Urethral Sticture (MCU)

The most common cause for stricture urethra in our series is infection (38%). But due to increase incidence of vehicular accident the traumatic strictures are second ommon cause (32%). With advancement of endoscopic surgery (TUR-P, TUR-BT…) and use of long-term catheterization also iatrogenic stricture can occurs commonly (30%).

Of 16 traumatic stricture cases, 6 patients were treated primarily by rail road and 10 patients were treated by suprapubic cystostomy. Out of these 18 patients, 6 patients were undergone urethroplasty. All these 6 patients following urethroplasty were developed stricture at the site of anastomosis and were treated with internal urethrotomy successfully. _From above figures best result of VIU were obtained in cases where strictures due to infective cause or due to iatrogenic as they were partial, less extensive and less fibrotic in our study. Result of VIU in traumatic stricture depends upon the severity of injury, site of injury and primary treatment given. After injury of patient can be managed early and properly than subsequent stricture will be less extensive and simple. It also depends upon type of trauma to urethra, if urethra is only contused or partially ruptured than the subsequent stricture will be less extensive. While if urethra is completely ruptured than stricture will be more troublesome. Result may also depend upon number of stricture and previous anastomosis. In our study we are getting more good result in single stricture (95.4%). While in multiple and previous

Fig 2: Urethral Stricture (AUG)

anastomotic cases we got satisfactory result.

The common complication like Bleeding, Hematoma, False passage and Extravasations were minimal and it was mainly due to dense and extensive fibrosis. While rate of recurrence was 30% which was deal with repeat VIU and than after we got good stream. Other complication like periurethral abcess, septicemia, incontinence, rectal perforation, priapism, fistula, epididymitis, and death were not present. Overall results are good in 75% cases, Satisfactory in 15% cases and Poor in 10% cases which were comparable with other series of Peter Walther and P.J.B. Smith.

CONCLUSION: The urethral stricture is the one of the most common complication of iatrogenic trauma (long term catheterization, post TURP), infection and trauma to urethra (vehicular accident). The VIU can be done in urethral stricture of previously treated cases, in different strictures site of urethra and in different numbers of strictures. Its complications are minimal and recurrence can be easily deal with repeat VIU. For treatment of urethral stricture internal urethrotomy is precise simple and safe procedure. It is also a primary treatment modality in the treatment of post urethroplasty short anastomotic stricture. With this modality we can reduce hospital stay, cost of treatment, morbidity and mortality.

OBSERVATION AND DISCUSSION:

1.TABLE-A: ETIOLOGY:

ETIOLOGY	G.H. Tilak(1984) 97 Cases (N or %)	A.D.Desmond(1981) 52 Cases (N or %)	Our series 50Cases (N or %)
*Trauma	44 (45.3%)	16 (30.7%)	16 (32%)
*Infection	10(10.3%)	10 (19.2%)	19 (38%)
*Iatrogenic	43 (44.3%)	14 (26.9%)	15 (30%)
*Idiopathic	00 (00%)	12 (23%)	00 (00%)

2.TABLE-B : PREVIOUS TREATMENT: PAST OPERATIVE TREATMENT NO OF PATIENTS

*Dilataion	21
*Internal urethrotomy	09
*Rail road	08
*Urethroplasty	06

Out of these 50, 21 patients were treated with dilatation, 09 with VIU, 08 with rail road, and 06 with Urethroplasty.

3.TABLE-C :SITE OF STRICTURE:

SITE OF STRICTURE	BEKIROV (1982) 128CASES	P.J.B SMITH (1979) 39 CASES	OUR SERIES 50 CASES
*Prostatic	00 %	28 %	08 %
*Membranous	00 %	30 %	20 %
*Bulbous	00 %	33 %	18 %
*Bulbo-Membranous	59 %	00 %	26 %
*Penile	22 %	09 %	06 %
*Blader neck contracture	11 %	00 %	00 %

In our series we've included all sites of strictures in urethra as like series of Bekirov and P.J.B. Smith.

RESULT: Overall result depends upon 1.Etiological factor 2. Number of strictures and 3. Complication. These all are discussed separately as below.

TABLE –D: ETIOLOGICAL FACTOR

RESULT	**TRAUMA 16 CASES**	**IATROGNIC 15 CASES**	**INFECTION 19 CASES**	**TOTAL 50 CASES**
	(N & %)	(N & %)	(N & %)	(N & %)
*GOOD	09 (56.2%)	12(80%)	16 (84.2%)	37(75%)
*SATISFACTORY	04(25%)	02(13.3%)	02(10.5%)	08(15%)
*POOR	03(18.7%)	01(6.6%)	01(5.2%)	05(10%)

TABLE-E: NUMBER OF STRICTURES

RESULT	SINGLE STRICTURE 22 CASES (N & %)	DOUBLE STRICTURE 10 CASES (N & %)	MULTIPLE STRICTURE 10 CASES (N & %)	ANSTOMOTIC STRICTURE 08 CASES (N & %)	OUR TOTAL 50 CASES (N & %)
*GOOD	21 (95.4%)	08(80%)	04 (40%)	04(50%)	37(75%)
*SATISFACTORY	01(4.5%)	01(10%)	04(40%)	02(25%)	08(15%)
*POOR	00(00%)	01(10%)	02(20%)	02(25%)	05(10%)

TABLE-F: COMPLICATION

COMPLICATION 32CASES	H. LIPSKY(1977) 36CASES	DIETER K.(1978) 50CASES	OUR SERIES
*BLEEDING	10%	04%	01%
*FALSE PASSAGE	06%	-	02%
*HEMATOMA	-	-	02%
*EXTRAVASATION	06%	-	-
*SEPTICEMIA	-	-	-
*PERIURETHRAL ABCESS	-	-	-
*INCONTINENCE	-	-	-
*RECURRENCE	30%	10%	30%
*RECTAL PERFORATION	-	-	-
*PRIAPISM	-	-	-
*FISTULA	-	-	-
*EPIDIDYMITIS	-	-	-
*DEATH	-	-	-

TABLE-G: OVERALL RESULT

RESULT	**PETER WALTHER(1980) 60 CASES**	**P.J.B. SMITH(1979) 39 CASES**	**OUR SERIES 50 CASES**
	(% & N)	**(% & N)**	**(% & N)**
***GOOD**	**83%(50)**	**80% (31)**	**75% (37)**
***SATISF ACTORY**	**10% (06)**	**14% (06)**	**15% (08)**
***POOR**	**07% (04)**	**06% (02)**	**10% (05)**

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