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EFFECT OF UTTERBASTI IN URETHRAL STRICTURE

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ABSTRACT
Urethral stricture is narrowing of the urethra due to scar tissue.it produces Obstructive and irritative urinary symptoms and can ultimately impair renal function which converts the pleasure into pain. management of urethral stricture is depends on the charecteristics of the stricture. In modern surgery treatment of stricture urethra is palliative i.e. urethral dilatation a procedure which is painful and having drawback that it has to be repeated again and again. Repeated instrumentation carries the risk of local trauma, false passage formation and introduction of infection. Apart from dilatation of urethra other modalities of treatment are internal urethrotomy (stricturetomy) secondly is urethroplasty which is very expensive and results are not that satisfying. Other newer techniques include laser urethrotomy which is also costly and requires repetitions. Recurrence and least encouraging results of urethral dilatation also the cost of other procedures lead to think for a procedure which may prove remedy for stricture urethra *(Mutramargsankoch*). *Uttarbasti* is described by Sushruta under the heading of *shasthi upkramas* which is the unique treatment for *mutramargagat vyadhis* and *vrana*. *Uttarbasti* is an easy procedure which can be performed in out patients department under aseptic precautions without any anaesthesia, less painful to the patients with least chances of complications and no post procedure rest is required.

KEYWORDS: *Mutramargasankoch*, urethral stricture, *uttarbasti, til taila, saindhava.*

INTRODUCTION
Stricture urethra is a disease which converts the pleasure into pain. It is narrowing of the urethral passage. In this the patient complaints of weak stream of urine, straining during micturition, and often ends up with pain. It mainly results as a post infective (gonococcal), instrumental or due to traumatic causes.[1] In modern surgery treatment of stricture urethra is palliative i.e. urethral dilatation a procedure which is painful and having drawback that it has to be repeated again and again. Repeated instrumentation carries the risk of local trauma, false passage formation and introduction of infection. Apart from dilatation of urethra other modalities of treatment are internal urethrotomy (stricturetomy) secondly is urethroplasty which is very expensive and results are not that satisfying. Other newer techniques include laser urethrotomy which is also costly and requires repetitions.[2] Recurrence and least encouraging results of urethral dilatation also the cost of other procedures lead to think for a procedure which may prove remedy for stricture urethra (*Mutramargsankoch*). *Uttarbasti* is described by Sushruta under the heading of *shasthi upkramas* which is the unique treatment for *mutramargagat vyadhis.*

qÉÔ§ÉÉbÉÉiÉå qÉÔ§ÉSÉåwÉå zÉÑ¢üSÉåwÉåÅ zqÉËU uÉëhÉå |
iÉjÉæuÉÉiÉïuÉSÉåwÉå cÉ oÉÎxiÉUmrÉÑ¨ÉUÉå ÌWûiÉ: || xÉÑ.ÍcÉ.1/100.

The concept behind the above *shloka* is to correct or to cover genitourinary diseases in either sex. Though it has been described in the texts and importance is of value but it is not found in practise nowadays. The procedure of *uttarbasti* is introduction of medicated oils, *kashayas* etc per urethra. For stricture urethra til *taila* and *saindhav* has been used in this study. The collective use of above these drugs is *lekhana, bhedana, chedana, mrudukar, krimighna, marga vishodhan, vrana shodhan, and ropan* which helps to dilate the constricted *mutramarga*. *Uttarbasti* is an easy procedure which can be performed in out patients department under aseptic precautions without any anaesthesia, less painful to the patients with least chances of complications and no post procedure rest is required. The drugs used are cheap, easily available with less possibilities of adulteration, non-toxic and easily tolerable. Only a few equipments are required for preparation and introduction. Also it can be used in remote areas In previous research *til taila(*sesame oil*), madhu (honey)and saindhav* (rock salt)are the drugs

which were used for *uttarbasti*.[4] But as nowadays *madhu* is available with adulterations and the availability of *madhu* in pure form is difficult so, in this study an effort is being made to exclude *madhu* and see for the same or better results. Hence *til taila* and *saindhav* are selected for *uttarbasti* in this clinical study.

AIM AND OBJECTIVE AIM: To study the role of *uttarbasti* in urethral stricture.

OBJECTIVES: To evaluate the efficacy of *uttarbasti* in urethral stricture achieve relief in urethral stricture by ayurvedic management To avoid urethral dilataton and surgery (urethrotomy and urethroplasty) Reduce the cost of management of urethral stricture.

MATERIALS AND METHOD

Materials: Drugs – *Til taila, Saindhav, Madhu* Authentication of the above drugs were done, and were used in the purified form for the study. Equipments for sterilization, Cloth sheet for covering, Betadine swab, Sponge holding forceps, 20 ml glass syringe with a suitable and smooth nozzle, Penile clamp, Drugs to prevent shock and handling emergency The above drugs were taken in the following proportion.
GROUP A- Til tail – 20 ml Saindhav - 1 g.
GROUP B- Til taila - 20 ml Saindhav - 1 g Madhu - 5 ml.

Methods: Place of study - Patients who report in the OPD and IPD of hospital were carefully selected on the basis of diagnostic inclusive criteria,. A well informed consent of all patients included in my study was taken before starting the treatment.

Type of study - The present study was single blind, randomized, controlled, prospective clinical trial using two groups - Group A Group B Sample size Group A- 30 patients Group b- 30 patients Groups and drugs used.

Group A - Experimental group – uttarbasti with til taila and saindhav alternate for 7 day.

Group B – Control group - uttarbasti with til taila madhu and saindhav alternate for 7 days.

Duration of treatment – 15 days, Follow up – 0 and 15th day.

Inclusive criteria

Patients diagnosed as urethral stricture
- Patients of either sex
- Patients of age group 15 to 60 years
- Patients irrespective of caste, religion, sex and economical status.

Exclusive criteria
- Congenital urethral stricture
- Benign prostatic enlargement
- Ca prostate
- Bladder neck stenosis
- Bladder neck hypertrophy
- Patients with cystits and UTI
- Urethral calculus
- Uncontrolled diabetes
- HIV and HbsAg reactive patients
- Neurogenic bladder
- Detrusor instability

Investigations

Blood – CBC, BT, CT, BSL Random, ESR HIV, Hbs Ag, VDRL.
Urine- routine and microscopic.
Urethrogram - retrograde or ascending urethrogram USG-abd-pelvic.

Specific investigations-Kidney function test, Urine culture sensitivity, IVP, Cystoscopy Were preferred according to the necessity After the confirmation of the diagnosis as stricture urethra the volumetric study of midstream of urine was performed i.e. the volume of urine per second was measured and noted. It proved helpful to assess the severity of stricture and to compare post and pre-treatment relief conditions.

Criteria for Assessment Subjective criteria

1-1 - weak stream.

Sr no	grades	Symptoms
1	0	NORMAL STREAM
2	I	Moderate stream falling 10 cms ahead of legs
3	II	Poor stream falling near legs within 10 cms
4	III	Dribbling micturition soiling clothes and body parts
5	IV	Acute retention of urine

2- Dysuria

Sr no	Grade	Symptoms
1	0	Normal stream with no straining and pain
2	I	Moderate stream with mild straining and pain
3	II	Poor stream with moderate straining and pain
4	III	Dribbling or incomplete micturition with severe straining and pain
5	IV	No flow of urine despite severe straining and pain

3-Hesitancy

Sr no	Grades	Symptoms
1	0	Normal flow of urine within 5 sec
2	I	Flow of urine after straining for 5 – 10 sec
3	II	Flow of urine after straining for 10-15 sec
4	III	Flow of urine seen after straining for more than 15 sec
5	IV	No flow of urine after straining for anytime

Objective Criteria

Urine flow per second, Pre and post retrograde or ascending urethrogram**.**

Retrograde Urethrogram

In this investigation 4 to 5 cc radio opaque dye i.e conray 420 with 4 to 5 cc xylocaine jelly is inserted in urethra with the help of glass syringe and spots were taken under fluoroscopy control. It was performed before the treatment and repeated after the treatment course is completed. It is helpful to confirm diagnosis, to localise the lesion and to understand the extent and nature of stricture. It was also helpful for comparing for post treatment relief with initial pre-treatment state of the disease.

Procedure of uttarbasti

The basic principle of uttarbasti was followed as per the samhitas only slight modifications were made according to the need.

Purvakarma

After thorough evaluation of the case and investigations the diagnosis of the patient was done and the procedure is as followed, Patient was asked to report OPD at 9 am after the breakfast, Bladder emptying was advised No pre procedure medicine was used Written informed consent was taken Patient blood pressure and pulse was observed Patient was kept in supine position Local cleaning of penis and scrotal and inguinal region with betadine done Prepuce retracted and glans penis cleaned Sterile cloth sheaths were used to cover lower abdomen and thigh Sterile 20 ml glass syringe was autoclaved The drugs used were autoclaved and used lukewarm.

Pradhan Karma

Under all aseptic precautions external urethral meatus was examined and glans penis was fixed with the help of index finger and thumb of the left hand. Glass syringe is filled with medicated oil is held in right hand and its nozzle is inserted gently into the external urethral meatus and slight pressure is applied to fix the junction. Luke warm medicated oil is inserted with slight pressure and gently without causing any harm to the urethra. The time span was around 30 sec so that gentle pressure is maintained. It was observed that no air enters into the urethra. After giving uttarbasti the external opening of the urethra was pinched so no oil should be leaked. The syringe is withdrawn and penile clamp is applied.

Paschat Karma

Penile clamp was removed after 3 minutes. Patient was kept in same position for 15 minutes. Post procedure blood pressure and pulse were examined. Patient has been instructed to hold urine unless urgency for next two hours.

Patient was observed for any complications. He was asked to come every alternate day for the procedure. Follow up was taken on 15 the day after the completion of the treatment course.

OBSERVATIONS

Sex wise distribution

Table no. 1: Sex Incidence.

SEX	GROUP A	GROUP B
MALE	29 (96.66 %)	30 (100%)
FEMALE	1 (3.33 %)	0
TOTAL	30	30

Table no 2: Age wise distribution.

Age group	Group A	Group B
0 -15 years	0	0
16 -30 years	5 (16.66%)	6(20%)
31-45 years	10 (33.33%)	12 (40%)
45-60 years	15 (50%)	12 (40%)
Total	30	30

Table no 3: Marital status.

Marital status	Group A	Group B
Married	24 (80%)	26 (86.66%)
Unmarried	6 (20%)	4 (13.33 %)
Total	30	30

Table no. 4: Cause of stricture.

Causes	Group A	Group B
Post infection	15 (50%)	16 (60%)
Instrument	8 (26.66%)	10 (30%)
Traumatic	4 (13.33%)	3 (10%)
Post prostatectomy	2 (6.66 %)	1 (3.33%)
Post circumcision	1 (3.33 %)	0
Total	30	30

Table no. 5: Site of stricture.

Site of stricture	Group A	Group B
Membranous	16 (53.33%)	15 (50%)
Junctional	6 (20%)	7 (23.33%)
Prostate	6 (20%)	4 (13.33%)
Penile	2 (6.66%)	4 (13.33%)
Total	30	30

Statistical Analysis

The clinical study was aimed to see the effect of uttarbasti in cases of urethral stricture. Uttarbasti was given in two groups in group A with til taila and saindhav and in group B with til taila, saindhav and madhu.

H_o – there is no significant improvements in the symptoms of stricture urethra at the end of the study between group A and group B.

i.e H_o is null hypothesis

H_1 – there is significant difference or improvement in the symptoms of stricture urethra at the end of the study between group A and group B.

i.e H_1 is alternative hypothesis

Further to find the efficacy of the two different groups Man Whitneys U test for ordinal Sdata and Unpaired t test to the quantitative data was applied.

Group A – experimental group is under the treatment of til taila + saindhav

Group B – control group is under the treatment of til taila + saindhav + madhu

For every statistical analysis, significance level accepted at 5% at 95% confidence limit

Degree of freedom – 58.

The following observations and results were found.

Table no.6: Weak Stream.

Grades	Group A		Group B	
	Day 0	Day 15	Day 0	Day 15
0	2	22	1	22
I	10	5	11	6
II	10	3	12	2
III	6	0	5	0
IV	2	0	1	0

The statistical analysis of the above table using Mann Whitneys U test P value is 0.8210, Mann Whitney U – 435.5, sum of ranks for group A- 929.5 and group B – 900.5. As, P > 0.05, P value is not significant and it suggests that both the groups are effective for improving weak stream in stricture urethra.

Table no.7: Dysuria.

GRADES	GROUP A		GROUP B	
	DAY 0	DAY 15	DAY 0	DAY 15
0	2	24	1	23
I	15	5	16	6
II	8	1	8	1
III	4	0	5	0
IV	1	0	0	0

The statistical analysis of the above data using Mann Whitneys U test P value >0.4133, Mann Whitney U – 396.5, sum of ranks for group A- 861.5 and for group B- 968.5. As P>0.05, P is not significant this suggests that both the groups are effective in improving dysuria in stricture urethra.

Table no. 8: Hesitancy.

GRADES	GROUP A		GROUP B	
	DAY 0	DAY 15	DAY 0	DAY 15
O	6	24	5	26
I	14	5	15	4
II	7	1	8	0
III	3	0	2	0
IV	0	0	0	0

The statistical analysis of the above data using Mann Whitneys U test P>0.6517, Mann Whitney U-415.5, sum of ranks of group A- 880.5, group B-949.5. As, P>0.05, so P is not significant this suggests that both the groups are effective in improving hesitancy in stricture urethra.

Table no 9: Volume of urine ml/sec.

MEAN SCORE	GROUP A	GROUP B
DAY 0	2.866	2.933
DAY 15	8.866	9.066

Table no. 9 By applying Unpaired t test to the above statistical data the observations were P is 0.52, at df - 58, t-0.6446, sd-1.416. As P>0.05 so, P is not significant, it suggests both the groups are effective in improving flow of formed urine in urethral stricture.

Table no.10: post void urine in ml.

Mean score	Day 0	Day15
Group A	70.33	15.33
Group B	95	25.33

On analysing the above data using unpaired t test it was observed that value of P is 0.5989, t-0.5289 at df – 58, as P>0.05 so it is not significant. Hence both the groups show similar improvements in the post void urine and the residual volume is seen decreased from the day 0.

Retrograde Urethrogram were diagnosed with stricture after confirmation by RGU also after the treatment RGU was done. There was improvement in the RGU seen, regression of the narrowing of stricture in the urethra was seen in post treatment RGU reports.

RESULTS

According to fig no.1 and table no.1 stricture is common in males than in females. Only one female patient was there and rest 59 were males.

- Age wise distribution shown in fig no.2 and table no. 2 indicates that it is common in adult and aged group of population.
- Data of table no.3 and fig no.3 indicates that stricture urethra is common among the married group of population as compared to the unmarried ones.
- Aetiology of stricture urethra according to table no.4 and fig no. 4 helps to see the cause of the disease. In this study post infective condition was found to be the major cause of the disease, followed by trauma and post-operative procedures.
- Site of stricture was seen common in the membranous urethra followed by prostatic and penile urethras as shown in the fig no.5 and table no.5.
- Weak stream which is one of the subjective criteria in the shown in fig no.6.1 and 6.2, table no.6 shows that both the groups are effective in improving dysuria.
- Observations of dysuria shown in table no.7, fig no.7.1 and 7.2 helps to analyse that both the groups showed similar results and were significant relief in improving dysuria.
- Hesitancy was the next criteria shown in the table no.8, fig no.8.1 and 8.2 explains that both the groups got relief in the improvement of hesitancy.
- Volume of urine in ml/sec was improved which means both the group showed relief and there was improvement in urine flow. Ref to table no.9and fig no.9.
- Post void urine shows significant decrease in the residual volume as shown in figno.10 and table no.10.

Pre-treatment RGU

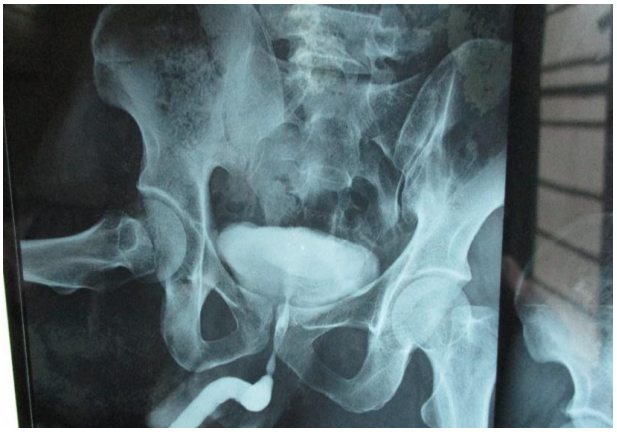

Plate no.6

Post treatment RGU

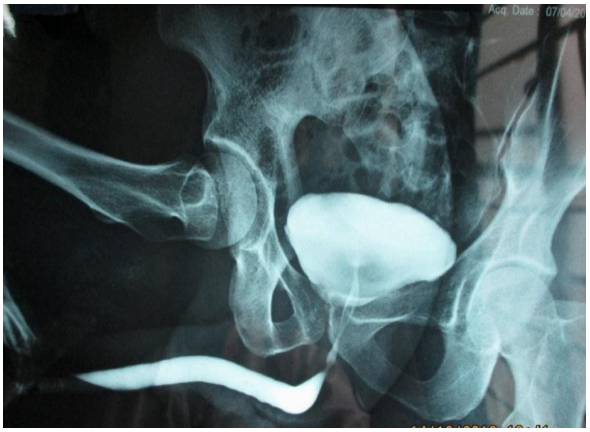

Plate no. 7

Post treatment RGU reports

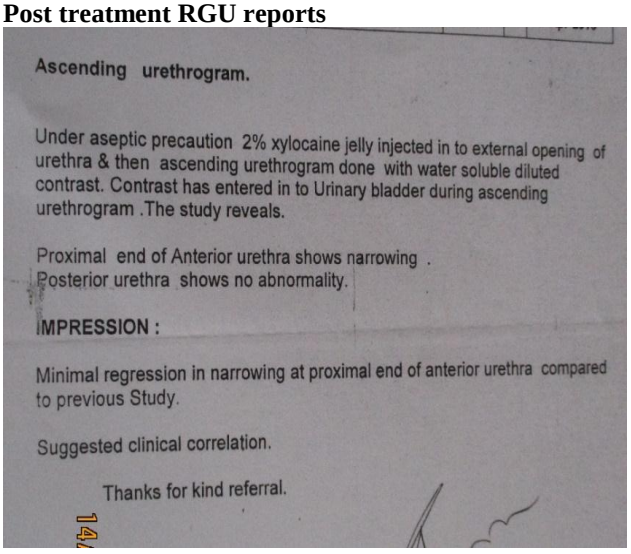

Plate no. 8

DISCUSSION

Stricture urethra is a disease which not only causes problem and discomfort to the patient but is also problem for the surgeon treating it. A surgeon has to face this disease in his day to day practise but the mode of treatment is not that commencing neither to the patient and nor to the doctor treating him. Available means of treatment are only for time being and has to be repeated again and again also the chances of recurrence are very soon in these cases.

Surgical procedures like urethral dilatation is having a drawback that it has to be done in repeated sessions and though the results are limited, it gives relief for time being. Also it requires expert hand to avoid the complication like false passage, and the journey of treatment proves to be expensive. It is accompanied by long term use of antibiotics and urine alkalisers which change the pH of the urine and in turn lead to the bacterial resistance. Repeated dilatations lead to widening of longitudinal cleft in the urethra causing more scarring and constriction of the passage calling for repeated periodic dilatations.

Secondly, urethrotomy can be done by laser or cystoscopy but the treatment requires anaesthesia and local complications may occur. Urethroplasty which is the final means of treatment is very costly and though surgeries performed by expert hands the patient comes with the recurrence after some years. So, all these means for the management of stricture urethra seems to be costly and results are not that commencing.

A number of aetiological factors are responsible for stricture urethra, among them venerally transmitted diseases which causes urethritis was noted in above 50% in both the groups. Another the factor instrumentation was 26% and 30% responsible for stricture urethra in group A and group B respectively. Trauma is another aetiological factor which responsible 13% and 6% in both the groups, Other factors like post-operative measures like prostatectomy and circumcision also were responsible for urethral stricture in few cases. Refer to table no.4 and fig no.4.

The disease was found to be 98.33 % in male and 1.66 % in females. Also the the disease was found 82% in the married ones and 18 % in unmarried. Refer to table no.1 and fig no.1. It was maximum in patients of adult age group according to the data observed in table no.2 and fig no.2.

The common site for urethral stricture among 60 patients, 52% were having membranous stricture, 20% were having junctional urethral stricture, and rest were penile. Refer to table no.5 and fig no.5.

Weak stream of urine, dysuria and hesitancy are the main symptoms which the patient encounters while he is suffering from the disease. These symptoms interrupt the day to day work of the patient causes him discomfort and the patient is forced to take medical advice.

Haematuria and incontinence are very uncommon symptoms. All these symptoms are mentioned by sushruta in detail under the various headings of mutraghat and mutrakruchra especially mutrotsanga.

Stricture urethra occurs mainly due to the post inflammatory scar formed in the urethra. The lining of the urethra after trauma gets inflamed and scarring of the tissue takes place. Due to this narrowing the patient does forced micturition which causes dilatation of the urethra leading to widening of the longitudinal clefts and reformation of wounds which again heals by fibrosis and the visicious cycle goes on. This hypertrophy of the formed scar and constriction which leads to stricture formation.

Uttarbasti is a procedure advised by sushruta in the management of mutraghat and mutrakruchra. Uttarbasti is amongst the sixty upkramas mentioned in the treatment of vrana. Mutra margasankoch is a disease which is caused by mainly vata and kapha dosas and trauma to the urethral lining is one of the pathological factor in this disease. So adopting these above principles in mind that mutramargasankoch is a wound in the urethra and it is having vata and kapha dosha prakopa so uttarbasti is the means of treatment used in this disease. The drugs used in uttarbasti have vataghna property aslo they don't increase or vitiate the kapha dosha and so their results are very much satisfying. It not only helps in the healing but also provokes regeneration of the urethral mucosa but performs vata shaman in terms of softening and increasing the elasticity of the urethral and periurethral tissues.

Also while giving uttarbasti gentle pressure is applied to force the drugs into the urethra this also helps in the breaking of the stricture and the lukewarm combination of the drugs helps in vasodilataion and thus increases the supply and indirectly the healing process.

In this study two groups were treated with uttarbasti. Group A was given uttarbasti with til taila and saindhav. Group B was given uttarbasti of til taila saindhav and madhu.

Til taila is ushna, sukhsma, sara, twakprasadna, mrudukar, lekhan, vranaropan, vatakaphashamak, krimighna, madhura, vyavayi, vikasi, teekshna and is indicated for basti karma. Til taila is said to be best for snehan. It is the main component of basti and it helps by penetrating deep into the tissues. It also increases the elasticity of the tissues, helps in wound healing and softening of the tissues. Also til taila makes the mutra marga smooth for the passgae of urine and so less friction is present. Thus til taila helps to keep the lumen wall healthy and avoids the further trauma and infection.

Saindhav is having main properties like chedan, bhedana, sara,sukshma, vikasi, marg vishodhankar, sharir avayamridukar, vatanuloman, so it helps in the lekhan karma of the fibrosed tissues. Aslo sukshma guna of saindhav helps to penetrate and the act in the deeper tissues, it helps to increase the penetrating property of the oil and decreases the barrier for the taila to work. Its teekshna guna is neutralized to some extent by oil. Marga vishodhan property of saindhav is very important property explained by Acharya charak. This helps in the clearing the obstruction and narrowings in the urethra.

Madhu is kashay ras, lekhan, vrana shodhan, ropana, sukhma, strotovishodhan, yogvahi, dahagna. It decreases the kaphakar properties and helps in the penetration of oil. Also it acts as vrana ropan.

The above mentioned drugs in combination are administered in the form of uttarbasti in lukewarm stage act as lekhana on the local tissues and also vata kapha shamak. It gives snehan to the tissues and smoothens the path and thus the elasticity and healthy tissues are formed. Also penile clamp when applied after giving uttarbasti helps to retain the medicated oil in the path.

It was observed that both the groups got significant relief in the symptoms. The symptoms like weak stream, dysuria, hesitancy were improved. Also the stream of urine was improved according to the urine flow study. Urine flow was measured in the mid-stream and pre and post treatment significant relief was measured. According to the statistical data analysis, the P value was not significant in cases of weak stream, dysuria, hesitancy, volume of urine in ml/sec and post void urine which means that both the treatments are effective in the cases of urethral stricture. Also in the table no.6,7,8,9,10 it was seen that group B treatment was slightly better than group A but no major significance was seen. As nowadays it is very difficult to get madhu in its original and pure form everywhere, very few places are enriched with pure and non-adulterated madhu so according to the outcomes of this study if madhu is excluded from the combination results are still commencing and satisfactory.

Also regression in the narrowing of the stricture in the reports of pre and post RGU was noted.

As this study was aimed to see the effect of uttarbasti in urethral stricture and so the duration was 15 days and follow up was noted on 15th day. During the study time no recurrence rate was noted as it was a short duration study and short time follow up so during it no such cases were noted only the effects were noted. In order to get the recurrence rate further study should be conducted of long term and follow up.

CONCLUSION

The present study consists of a small series of uttarbasti upkrama performed in stricture urethra (mutramargasankoch) of different aetiology.

- The incidence of stricture urethra was more in males than females.
- The common site for stricture urethra was found to be in membranous part of urethra.
- It was found maximum in the sexually active phase of life.
- It was found that uttarbasti given by tila taila and saindhav is having the results same as uttarbasti given by til taila, saindhav and madhu.
- Both the groups got significant relief in the complaints of weak stream, dysuria and hesitancy.
- The urine flow per sec was increased by both the measures of uttarbasti.
- Slightly more effective results were seen of uttarbasti with the drugs til taila,saindhav and madhu.
- As nowadays, it is not possible to get madhu in pure form, available madhu is having many adulterations, so by excluding madhu results are same and safe.
- No adverse complications were observed during the study period.

Further detailed clinical study on larger population of patients will be necessary to fully explain and confirm the results obtained in the present study.

SUMMARY

According to modern science the treatment of stricture urethra is usually dilatation of urethra, urethrotomy or urethroplasty. Nowadays, laser internal urethrotomy is being performed. But all these techniques are having some or the other drawbacks as explained earlier and are also very costly. These means are available at limited places, therefore not accessible to common man. Stricture urethra is a disease having peculiar tendency of recurrence, despite of surgical intervention. Therefore surgery is not the complete treatment of stricture urethra.

Reviewing all the factors, the topic “Effect of uttarbasti in urethral stricture” was selected for the dissertation.

Review of literature was taken to collect the information about stricture urethra (mutramargsankoch), its management and related sharir rachna and sharir kriya according to.

Ayurveda and modern science.

- Til taila, madhu and saindhav were authentified and used for the study.
- Patients were randomly selected from the OPD of hospital as per the selection criteria.
- To the patients of group A uttarbasti was given with til taila and saindhav alternate for 7 days.
- For the patients of group B uttarbasti was given with til taila, saindhav and madhu alternate for 7 days.
- Pathya ahar vihar was instructed to all the patients.

- Also patients were advised to yogasna like vajrasan.
- Follow up was recorded on 0 and 15th day.
- Any side effects or adverse effects were looked.
- The findings were converted to various tables and graphs.
- Observations and results were noted.
- Masterchart of the obseravtions was made.
- Discussion was done on the observations and results.
- Effectiveness of the uttarbasti procedure was observed.
- Conclusion was made on the basis of obervations and results.

REFERENCES

1. Sushrut samhita(porvardha), edited by ambikadatta shastri, choukhamba sanskrit sansthan, varanasi, 2005.
2. Sushrut samhita(uttarardha), edited by ambikadatta shastri, choukhamba sanskrit sansthan, varanasi, 2005.
3. Charak samhita- vidyotini vyakhya, edited by kashinath Panday, chaukhambha bharati academy, 22th edition,vol,1 & 2,varanasi, 1996.
4. Ashtanga sangraha- edited with hindi commentary, kaviraj atridev gupta(editor), Varanasi; chaukhambha krishnadas academy, 2005.
5. Acharya vagbhat, Ashtang Hridayam- Vidyamanoranjani commentary edited by pandit kashinath shastri, 1st edition, krishnadas academy, varanashi, 1994.
6. shrangdhara samhita- edited with dipika and gudhartha dipika commentary, Varanasi; chaukhambha prakashan, 2000.
7. Chris V. Mann et al, Bailey and Loves short practice of surgery, 24th edition, published by oxford university press, USA, 2007.
8. Charles Grannville Rob et al, operative surgery urology, 4th edition, Hodder Arnold publication, 1998.