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ORIGINAL ARTICLE

Outcome of vesicovaginal fistula repair by vaginal approach.

Muhammad Akmal[1], Muhammad Irfan Munir[2], Muhammad Sheraz Javed[3], Muhammad Tahir Bashir Malik[4], Sarfraz Hassan[5]

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ABSTRACT… Objectives: To evaluate success of vesicovaginal fistula repair by vaginal approach with secondary objective to assess the limitations of repair by vaginal route. **Study Design:** Retrospective & Descriptive study. **Setting:** Department of Urology and Renal Transplantation, Faisalabad Medical University, Faisalabad. **Period:** January 2017 to December 2020. **Material & Methods:** In which 42 patients were included in the study. All patients were submitted for VVF repair by vaginal approach. Procedure was done under spinal anesthesia in all patients. Operation was done in lithotomy position. Circumferential incision was made around the fistula. Vagina and bladder were separated. Urinary bladder was repaired in two layers and vagina by perpendicular stitching technique. Foley catheter was passed. Urinary leakage was seen by instillation of normal saline and Gentian Violet. Vaginal packing was done at the end of the procedure which was removed after 1 day of surgery and patient post operative data was noted. **Results:** 42 patients were included. There mean age was 27 years. 45.23% patients came with history of prolonged labor, 30.95% patients presented after transabdominal hysterectomy, 21.42% after lower segment secession section and 2.38% patients came after operation for cystocele. Infra-trigonal VVF was present in 59.53% patients and supra-trigonal in 40.47% cases. Our success rate was 85.71% and we faced failure in 14.28% of patients. Lower urinary tracts symptoms were seen in 30.95%, hematuria in 9.25%, stress incontinence in 11.9%, symptoms like over active bladder in 7.14% and urinary tract infection in 14.28%. **Conclusion:** VVF repair by vaginal approach is safe and successful with less morbidity than abdominal approach.

Key words: Success Rate, Vesicovaginal Fistula, Vaginal Approach.

INTRODCUTION

Vesicovaginal fistula is an abnormal communication between urinary bladder and vagina.[1,2] It is cause of continuous urinary leakage through fistula which is clinical as well as social problem for the patient.[3] History dates back to 1935 Egyptian mummy.[4] It is mostly seen in developing countries but also present in developed countries as well.[5,6] It may be due to obstructed labor in which bladder is compressed between fetal head and pelvic bones of the mother.[7] VVF develops also after hysterectomy.[8] Lower segment cesarian section is also one of the causes of VVF.[9] It may be inflammatory and due to malignancy. Post radiation fistula is also seen rarely.[10] Patient complains of total urinary incontinence but in small fistula patient voids as well. Fistula may be small (up to 2cm) or big (> 2cm). It may be single, or multiple fistulae may be seen. Spontaneous closure is also reported.[11] VVF is mostly managed surgically for which transabdominal and transvaginal approaches to access and repair fistula are used and rarely combined approaches taken in consideration in cases of complex fistulae. Vaginal approach is preferred due to easy access and less morbidity.[12] It may be treated by abdominal approach as well.[13] Abdomino-vaginal approach is used in rare cases. Laparoscopic technique is used now-a-days with good results and short hospital stay.[14] Robot assisted laparoscopic method is advanced technique being used now-a-days.[15] We planned a study in our department to evaluate the success of VVF repair by vaginal approach.

MATERIAL & METHODS

This Retrospective & Descriptive study was conducted at Department of Urology and Renal

1. MBBS, FCPS (Urology), Associate Professor Urology, Department of Urology & Renal Transplantation, Faisalabad Medical University, Faisalabad.
2. MBBS, FCPS (Urology), FCPS (General Surgery), Associate Professor Urology, Department of Urology & Renal Transplantation, Faisalabad Medical University, Faisalabad.
3. MBBS, FCPS (Urology), Senior Registrar Urology, Department of Urology & Renal Transplantation, Allied Hospital/Faisalabad Medical University, Faisalabad.
4. MBBS, FCPS (Urology), FRCS (Urology) Assistant Professor Urology, Faisalabad Medical University, Faisalabad.
5. MBBS, FCPS (Urology), FRCS (Urology) Assistant Professor Urology, BVH, Quaid e Azam Medical College, Bahawalpur.

Correspondence Address:
Dr. Muhammad Sheraz Javed
Department of Urology & Renal Transplantation, Allied Hospital/Faisalabad Medical University, Faisalabad.
sherazdr@hotmail.com

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Transplantation, Faisalabad Medical University, Faisalabad from January 2017 to December 2020 after approval from ethical committee (No.974).

Inclusion Criteria

All female patients presenting with incontinence secondary to VVF

Exclusion Criteria

1. Multiple fistulae.
2. Fistula involving ureteric orifice.
3. Fistula more than 3 cm.
4. Very high fistula specially having intact uterus.
5. Patients with vaginal pathologies contraindicating surgery from vaginal approach

Methods

42 patients were included in the study. Detailed history was taken regarding obstructed labor, LSCS, Hysterectomy or any other intervention leading to incontinence. All patients were asked for type of incontinence total or incontinence along with act of micturition. Physical examination including systemic evaluation was done in every patient. USG KUB was done to see hydronephrosis and bladder filling. IVU was done in all patients suggestive of VVF. Diagnosis was made by cystoscopy and vaginoscopy. Gentian violet was instilled in urinary bladder in doubtful cases. Once diagnosis was confirmed VVF repair was planned in lithotomy position. Inj. Xylocaine 2% was injected around the fistula tract. Circumferential incision was made taking 5mm margin of fistula. Space was created between urinary bladder and vagina and both were separated. Lambda incision was made in vagina at 12 o' clock position. Urinary bladder was repaired with vicryl # 3/0 in two layers. 200cc of normal saline with gentian violet was instilled in urinary bladder to ensure water tight fistula closure. Vagina was repaired with vicryl # 2/0 perpendicular to urinary bladder stitches. Vaginal packing was done at the end of surgery and two way catheter # 24Fr inserted in urinary bladder & kept for three weeks. All patients were given α-blockers and anti-muscarinics to avoid bladder spasm. Third generation cephalosporin and metronidazole were given intra-venously for 5 days then oral ciprofloxacin 500mg twice daily for 16 days till removal of catheter. Follow up was done after 1 week and 1 month to see success of repair or complications in terms of incontinence, overactive bladder, stress incontinence etc.

RESULTS

42 patients were included in the study. Their age was between 16 years to 55 years with mean age of 27 years. 19 (45.23%) patients presented with incontinence after prolonged labor. VVF after hysterectomy in 13 (30.95%) cases. 9 (21.42%) cases presented after lower segment cesarean section. VVF developed in 01 (2.38%) patients after cystocoele surgery (Figure-1).

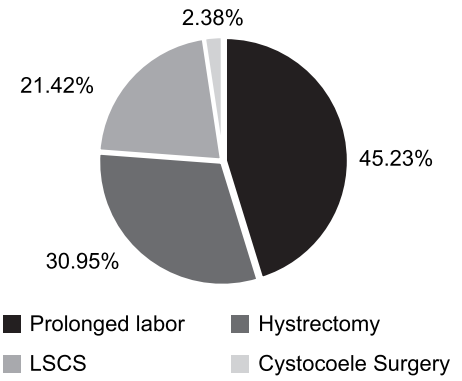

Figure-1. Etiology

Patients with fistula more than 3 cm, multiple fistulae, VVF along with UVF and VVF involving ureteric orifices were excluded from the study. On cystoscopic examination, 59.53% patients had infratrigonal VVF whereas 40.47% patients had supra trigonal VVF (Figure-2).

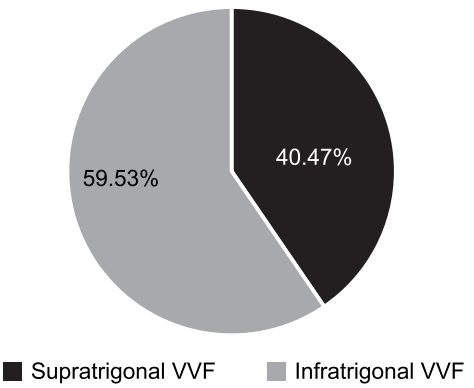

Figure-2. Cystoscopic location of VVF

35 patients (83.33%) presented without history of previous VVF repair and 07 patients (16.66%) had

history of VVF repair (Figure-3).

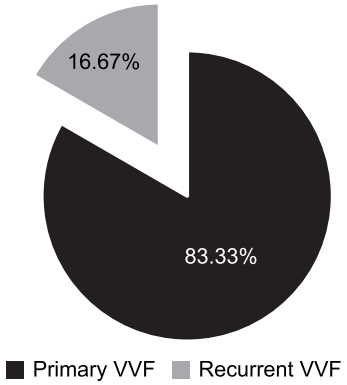

Figure-3: Primary vs recurrent VVF

All patients were operated by vaginal approach and foley catheter was kept for 3 weeks. Operation was totally successful in 36 (85.71%) patients. We faced failure in 06 (14.28%) cases. Minor complications were observed in certain patients which were not considered as failure (Table-I).

Outcome of Surgery	Number of Patients
Success	36 (85.71%)
Failure	6 (14.28%)

Table-I. Outcome of surgery

LUTS due to foley catheter were seen in 13 (30.95%) cases which were managed by α-blockers and anti-muscarinic. Post-operative hematuria was noted in 4 (9.52%) patients which was manageable. Stress urinary incontinence was found in 5 (11.9%) cases and 3 (7.14%) patients presented with behavior like over active bladder. They required long term anti-muscarinic. Post-operative UTI was seen in 6 (14.28%) cases that was treated by antibiotics (Figure-4).

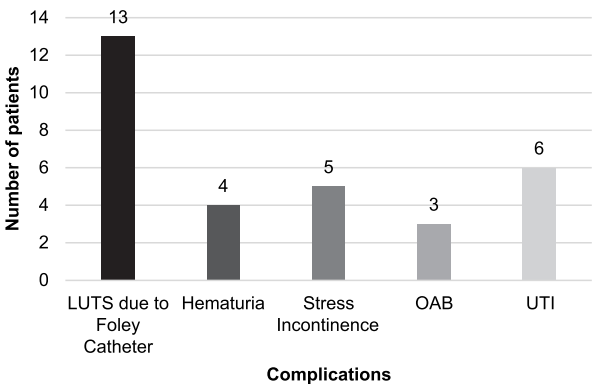

Figure-4. Complications

DISCUSSION

VVF is rare in developed countries and comparatively more common in under developed part of the world.[16] Exact incidence is not known but more than 2 Million population is affected annually.[17] VVF is seen in all age groups. In our study, their age was in between 16 to 55 years with mean age of 27 years. Similar study was conducted by Demisew Anemu Sori et al and age of the patients in their study ranged from 12-45 years with mean of 25 years.[18] In our study, 19 (45.23%) patients presented with incontinence after prolonged labor. VVF after hysterectomy in 13 (30.95%) cases, 9 (21.42%) cases presented after lower segment cesarean section and VVF developed in 01 (2.38%) patients after cystocoele surgery. Sana Ullah et al noted VVF due to obstructed labor in 46.2%, LSCS 13.2%, Hysterectomy 33% and dilatation with curettage 6.6%.[19] Sheikh Atiq-ur-Rehman et al found VVF in patients due to transabdominal hysterectomy 50%, Transvaginal hysterectomy 5%, Post-LSCS 5% and obstructed labor 40%.[13]

Diagnosis was confirmed by cystoscopy. This approach was used by many centre.[20] We repaired VVF by vaginal approach in lithotomy position. Vaginal approach was preferred by Demisew Anemu Sori[18], Muhammad A Malik[21] and Tsia Shu Lo et al.[22] Our success rate was 85.71% whereas Sana Ullah et al were successful in 91.1%[18] and Demisew Anemu Sori noted success in 84.5%.[17] Procedure was not successful in 14.28% cases in our study. Failure rate was 9.09% in study conducted by Sana Ullah et al[18] and no failure by study conducted by Tatar B et al.[23] Zero to 30% failure was seen by many centres.[17,24] We faced LUTS due to Foley catheter in 30.95% of patients which were managed by α-blockers and anti-muscarinics. Similar results were seen by M. A. Malik et al[21] and Tatar B et al.[23,25]

9.52% patients developed hematuria in our study. Whereas Sheikh Atiq Ur Rehman et al[13] noted hematuria in 12.5% cases. 7.14% patients presented with over active bladder in our study whereas 25% patients were seen by Tsia Shu Lo et al.[22] 11.2% patients developed SUI after removal of catheter while Tsia Shu Lo et al[22] noted

SUI in 25% operated patients. We noted UTI in 14.2% cases after surgery. Tsia Shu Lo et al[22] noted UTI in 12.5% cases and Demisew Anemu Sori[18] in 9.5% patients. Antibiotic cover was given till the removal of catheter. Similar approach was adopted by M. A. Malik et al.[21] Trans vaginal approach to repair provides promising results worldwide[26,27] Our results were comparable to most of the studies conducted in Pakistan and all over the world.[26]

CONCLUSION

Vesicovaginal Fistula can be managed safely and successfully by vaginal route in most of the cases. It has comparable results with abdominal approach with less morbidity.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

No.	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Muhammad Akmal	Principal Author, Principal researcher.	
2	Muhammad Irfan Munir	Co-Author, Manuscript Writing.	
3	Muhammad Sheraz Javed	Co-Author, Data collection.	
4	Muhammad Tahir Bashir Malik	Co-Author, Statistical analysis.	
5	Sarfraz Hassan	Co-Author.	