

## REPAIR OF NON-RADIATED VESICO-VAGINAL FISTULA

### Introduction

We present our surgical technique for vaginal repair of non-radiated vesico-vaginal fistula and provide long-term data related to the impact of this repair on bladder and sexual symptoms [1].

### Design

Data collection and database use were approved by our institutional review board. We retrospectively reviewed records of 96 consecutive adult patients undergoing non-radiated VVF repair at our institution from 1996 to 2011. Medical record data were reviewed for: (1) demographics, (2) time from injury to definitive repair, (3) fistula characteristics: size, location and number of fistulae confirmed on imaging [voiding cystourethrogram (VCUG), CT urogram], cystoscopy or retrograde pyelogram (RPG), (4) surgical approach (V=vaginal, A=Abdominal) (5) peri-operative complications and (6) functional outcomes based on validated questionnaires [2].

Vesico-vaginal fistula repair procedure and any other associated indicated procedures such as ureteric reimplantation was performed by 2 fellowship trained Urologists at our institution (GEL, PEZ) with established techniques [3]. Surgical approach was determined at the surgeon's discretion depending on VVF location, number of fistulae, adequate access to fistula tract and involvement of other genitourinary structures, i.e. ureter. A third party investigator, DL, who did not participate in the surgeries, performed data collection.

As shown in this video, the first steps of the vaginal repair procedure entailed cystoscopy with suprapubic tube placement after controlling the fistula tract with a guidewire and a council tip catheter was slipped in over the wire. Then the vaginal procedure consisted of raising broad-based anterior and posterior vaginal flaps for complete fistula tract dissection and full mobilization from surrounding tissues. The fistula tract first layer closure was then done tension-free with running fine absorbable sutures started at each corner of the fistula tract. After verifying watertightness of the repair, a second layer closure was placed at right angles to protect the repair and decrease tension from secondary bladder spasms. Tissue interposition can always be considered and was frequently used in this series, using peritoneal flap, omental flap, or less frequently a Martius labial fat pad graft. Vaginal flap advancement concluded the procedure.

All patients had radiological assessment of fistula closure with lateral standing voiding cystourethrogram (VCUG) at 4 weeks follow up. Patients were followed at 6 months and yearly thereafter. For functional outcomes, all patients were mailed the following validated questionnaires: Urogenital Distress Inventory 6 (UDI-6), Incontinence Impact Questionnaire (IIQ-7) [2], Female Sexual Function Index (FSFI) and one global Quality of Life (QoL) question scored on a Visual analogue Scale (VAS) from 0=excellent to 10=terrible [2]. Patients lost to follow up were reached by a structured phone interview incorporating the same questionnaires. Inclusion criteria included all VVF patients with a minimum 6 months follow up and  $\geq 18$  years of age. Good quality of life outcome (QoL) on VAS was defined as  $\leq 3$ . A score of  $\leq 26.5$  on the FSFI was classified as female sexual dysfunction (FSD). Three surgical groups were compared: (1) naïve (no prior repairs), (2) recurrent (1 prior repair) and (3) others ( $> 2$  repairs).

Descriptive statistics were used to characterize demographic data. Independent *t* testing was used to detect differences in functional outcomes between the surgical groups with criterion set at  $p < 0.05$  for statistical significance. SPSS version 16 (Chicago, Illinois, USA) was used for all statistical analysis.

### Results [1]

From 1996 to 2011, 66 patients underwent VVF repair (42 primary [31 V, 11 A], 14 secondary, and 10  $> 2$  repairs), with mean age of 45 years (24-87), mean BMI 29 (19-43) and mean follow-up duration 55 months (6 -198). Overall repair success rate was 97%. There was no difference in functional outcomes between the three groups among questionnaire responders for lower urinary tract symptoms (UDI-6/IIQ-7 – 62%). However for FSFI-33%, there was female sexual dysfunction in patients having transabdominal repair and also for those that had 2 repairs.

### Conclusion

This video describes our technique for vaginal repair of non-radiated vesico-vaginal fistula. Added information is provided regarding the long-term follow up of these VVF repair patients indicating no differences in lower urinary tract outcomes at mean 7 years follow-up between primary and recurrent repairs; There was a difference in sexual function although not statistically significant and sexual activity among responders was low.

### References

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### Disclosures

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