

# Trans-sphincteric anorectoplasty for rectovestibular fistula



By

**Sarah Magdy Abdelmohsen**

**Mohamed Abdelkader Osman**

Assistant Lecturer of Pediatric surgery, Aswan University hospital.



# Faculty of medicine, Aswan university established 2013.



No disclosure

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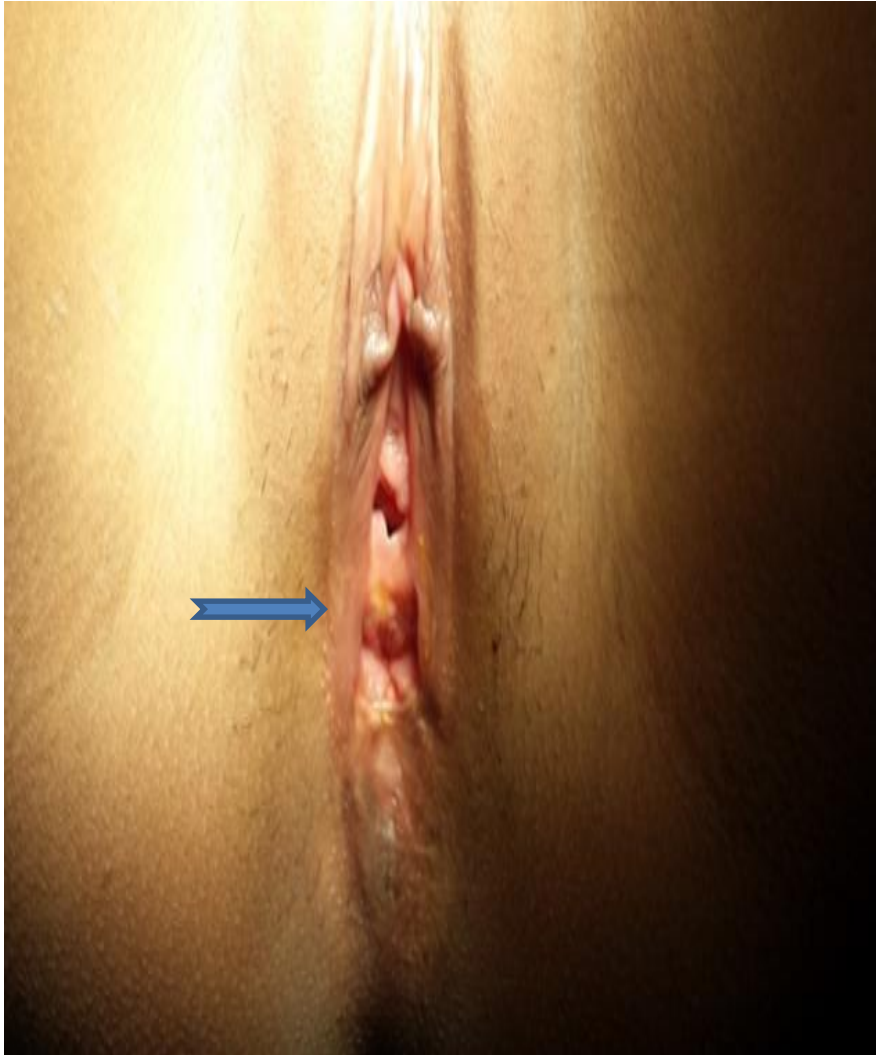


# Introduction

Rectovestibular fistula (RVF) is the most frequent anorectal malformation (ARM), constituting approximately 25% of ARM in females (1). The proximity of the ectopic anus with the vulva and the stenosed opening scene in a large majority of cases necessitates some form of surgical correction.

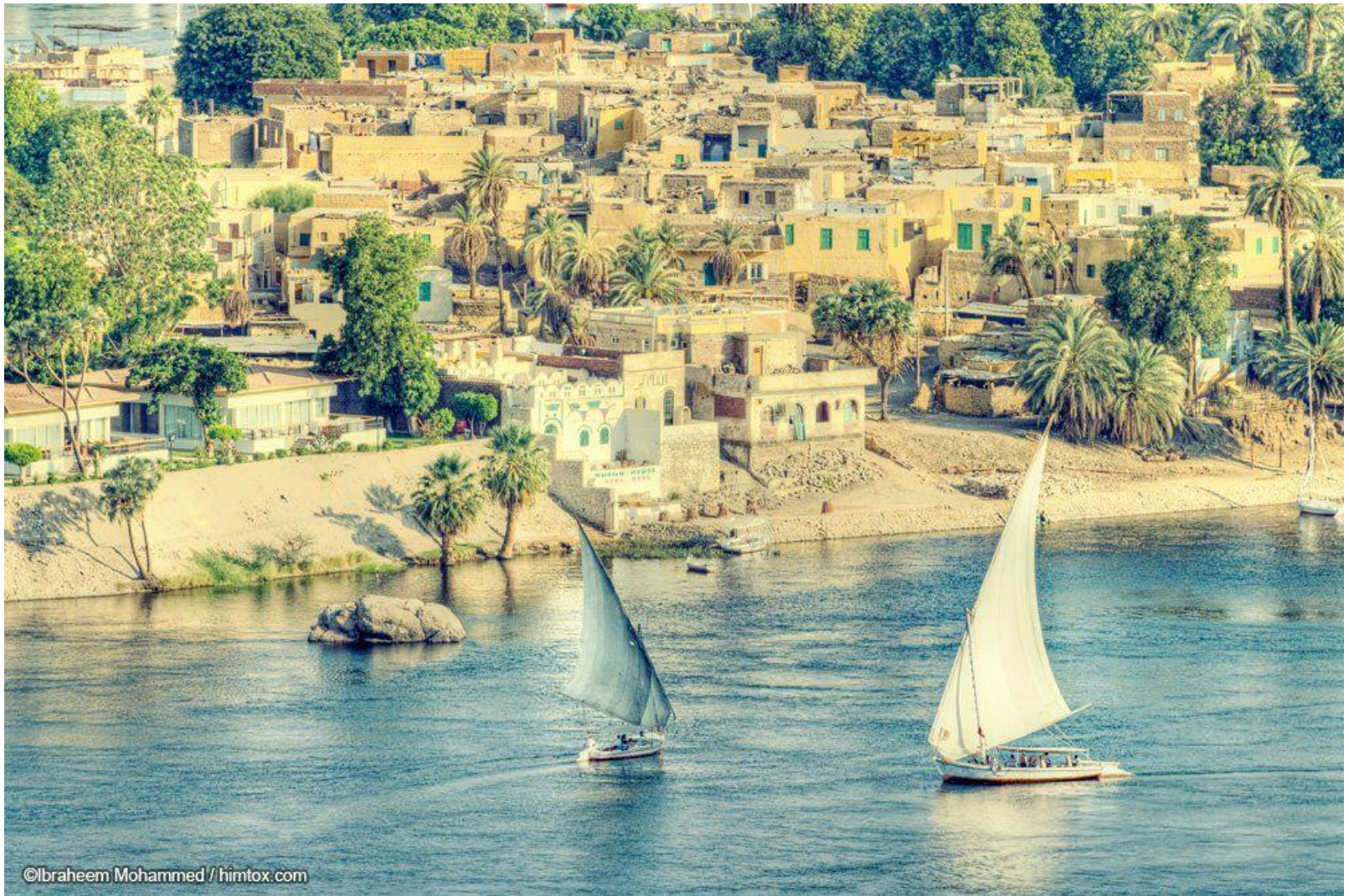
Fig 1: Vestibular anus in 12 years old female.

Fig 2: Vestibular anus in 3 months female neonate.



The aim of the study was to see the effectiveness of Trans-fistula Anorectoplasty (TFARP) also, known as trans-sphincter anorectoplasty (TSARP) which was required minimal dissection without interruption of perineal body and perineal skin with an aim to improving the functional and cosmetic results in patients with RVF.







# Method

- This was a prospective study did from January 2016 to January 2017.
- We included all female with age range from (25 days -12 years old) diagnosed as a rectovestibular fistula (RVF) operated by single stage TSARP, operated at pediatric surgery units of **Aswan and Assiut University Hospitals**.
- None of these patients had a preliminary colostomy.
- All cases had a well-formed perineum & gluteal region.



# **Surgical technique**

- Surgery was performed in lithotomy position after catheterizing of the bladder.
- A Proposed anal site was determined by the anal dimple and confirmed by the use of a muscle stimulator, and the landmark to the neoanal site was taken by a simple suture.



Dilute (0.001%) adrenaline solution was injected under the mucosa of the fistula to facilitate its separation from the rectovaginal septum and to minimized bleeding.



- Peri-fistula traction sutures were taken incorporating the wall of the fistula to facilitate retraction during dissection.
- A circumferential incision was made on the mucosa of the fistula, and a submucosal plane was entered.

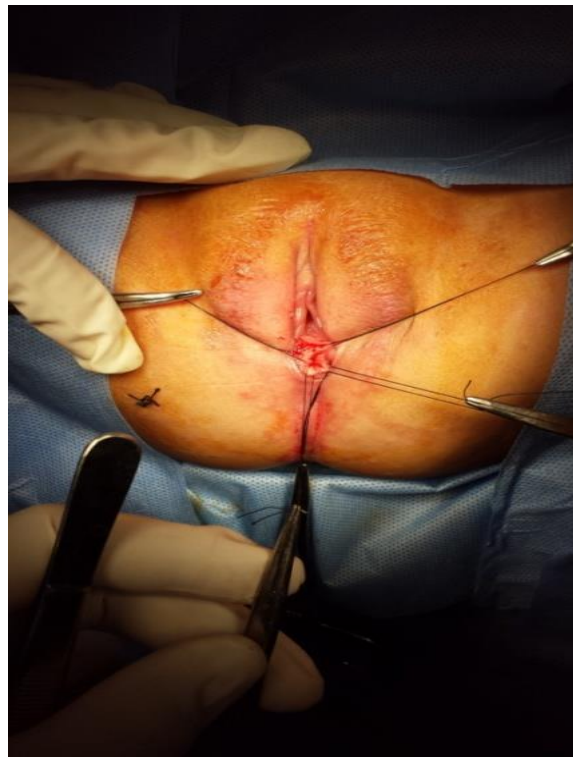


Fig 5: Peri-fistula traction sutures incorporating the wall of the fistula.

- The submucosal dissection is carried upward, carefully separating the common rectovaginal septum up to the cervix anterior and posterior up to the sacral promontory.
- No incision was made over the perineum, and perineum was kept intact.
- At this level, the full thickness of the distal rectum was reached.

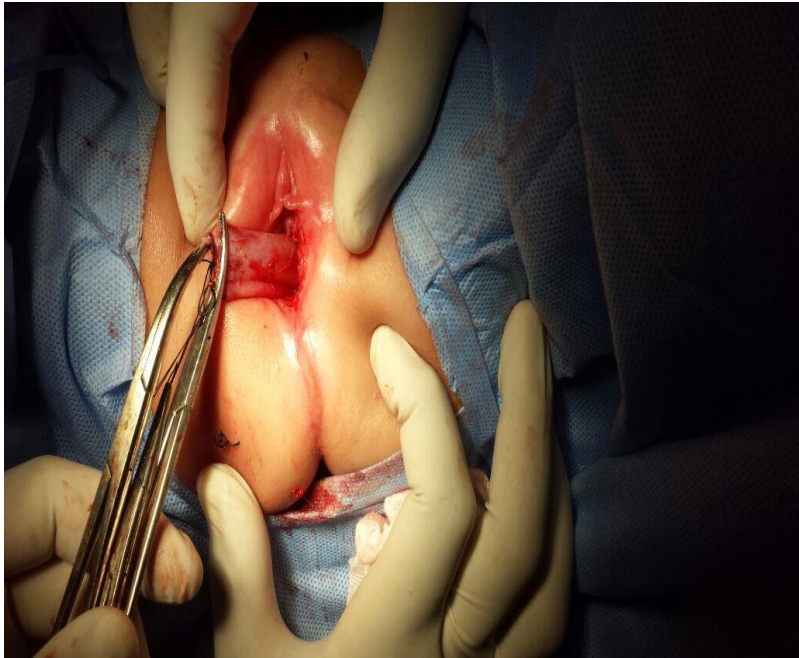


Fig 6: mobilization of fistula along with rectum.





- The neoanal site with its external sphincter muscle complex was previously landmarked with a simple stitch, a cruciate incision of about 1cms was made at that site, and the opening created in the external sphincter complex, through which mobilized rectum was pulled.



Fig7: Incision was given at the proposed anus site.



Fig 8: opening created in the external sphincter complex, through which mobilized rectum will be pulled.





Fig 9: Pull of the rectum through the external sphincter.

- The narrowed distal part of the rectum was excised and fixed to the deep muscle complex, with vicryl 4'0.



Fig 10: perineal defect at previous anal site.

- The site of the primary fistula was closed in layers with 5'0 vicryl interrupted stitches.



Fig 11: Repaired perineal body.





Fig 12: The narrowed distal part of the rectum was excised.

Anoplasty was done with 12 stitches with 5'0 vicryl; the neoanus allowed 10 /12 sized Hegar's dilator.

- The rectum was packed with Vaseline gauze after surgery which was removed on the next day.

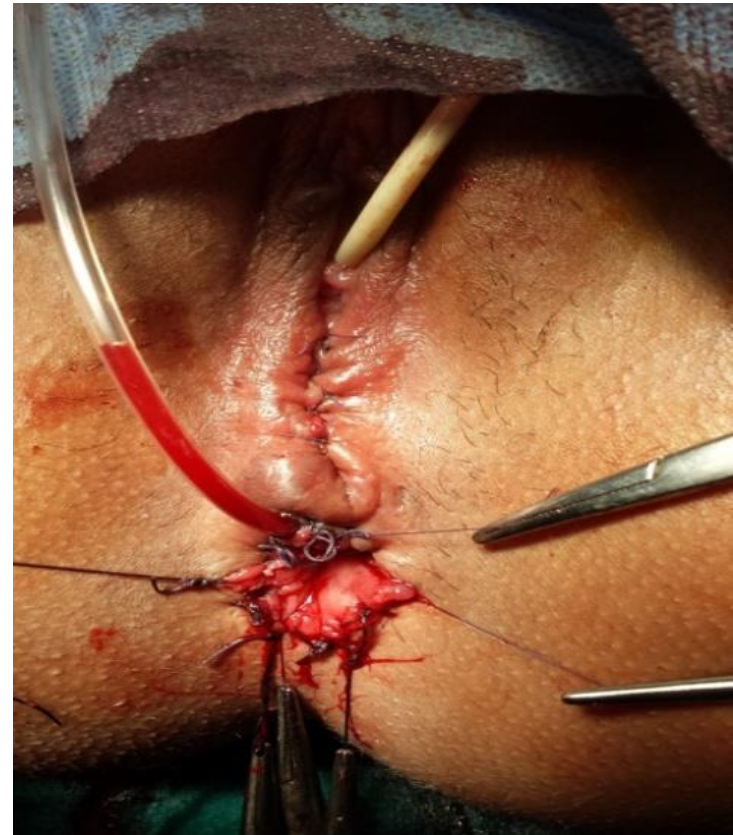


Fig 13: Immediate post operative view.



Fig 16 : few months postoperative view







# Follow-up schedules

- Continue every 2 weeks up to 6 months.
- Data regarding early (up to 1 month) complications like wound infection, wound dehiscence, skin excoriation, and delayed (3 months to 6 months) complications like mucosal prolapse, fistula formation, stenosis was collected.
- Information about whether scheduled dilatation was followed, bowel habits, continence, soiling and an unsatisfactory cosmetic outcome was collected.

# Assessment of fecal continence

- Anocutaneous reflex and anal squeeze on per rectal digital examination were performed for younger children who had not attained the age of continence (less than 3 years).
- For children older than 3 years, modified Wingspread Scoring <sup>(6)</sup> was adopted to evaluate fecal continence.
- The outcome was designated as “good”, “ fair” , or “poor”.



# Results

- The total numbers of cases were **22 cases**.
- The mean age of the operated patient was **2 years** (range: 25 days-12 years).
- Mean weight was 9.95kgs (range: 3kgs-45kgs).
- Mean operative time was 53 minutes (SD  $\pm$  11).
- Mean hospital stay was 7 days (range: 2-18).

**Table 1: Age at Operation in the Study Group**

Age at operation	Frequency	Percent
Less than 1 year	12	54.6
From 1 year up to 2 years	7	31.8
More than 2 years up to 3 years	0	0
More than 3 years	3	13.6
Total	22	100.0



- Eight cases (36.36%) of the patient had positive parent consanguinity.
- Also, eight cases (36.36%) of a patient had associated anomalies.

**Table 2: Associated anomalies in the study group (N=22)**

Associated anomalies		frequency	percentage
cardiac anomalies	VSD ASD + Vertebral scoliosis	2	9.1
Renal anomalies	right pelviureteric junction obstruction and hydronephrosis + hydrocephalous	1	4.5
vertebral anomalies	ASD+ Vertebral scoliosis	1	4.5
limb anomalies	congenital right tibia deficiency	1	4.5
Other GIT anomalies	congenital megacolon	2	9.1
Ear anomaly	congenital earlobe cleft	1	4.5
Laryngeal anomaly	congenital laryngeal web	1	4.5

**Two cases of these associated anomalies group have multiple congenital anomalies:**

**Case A:** vestibular anus + atrial septal defect (ASD) + vertebral scoliosis.

**Case B:** vestibular anus + right pelviureteric junction obstruction and hydronephrosis + hydrocephalus.

- One patient suffered vaginal wall tear during separation of a rectal wall from the vaginal wall was repaired immediately by 6/0 vicryl, developed postoperative fistula at the 3rd postoperative days.
- Other case had postoperative wound infection, then fistula appear on the 3rd postoperative days.
- Redo operative intervention did with fistulectomy with covering pelvic colostomy, after 3 months pelvic colostomy closure did.

- Seven cases of those 22 cases are now 3 years old or older, 6 of those 7 cases achieved voluntary bowel control and toilet trained and had good (4-5 points) wingspread score. The last one, not toilet trained and had a fair (3.5 points) of wingspread score.



- The younger age groups had satisfactory anal contraction on stroking the perianal skin, good anal grip on per rectal examination except for four cases with poor Anocutaneous reflex and anal squeeze on per rectal examination.

- 11 cases of those 22 cases (50%) are complaining of recurrent attack of constipation.

# Table 3: Bowel habits of the patients according to age.

L\E=Anocutaneous reflex and anal squeeze on per rectal examination.

N = frequency of the cases.

Age group	N	Voluntary bowel control	L\E	Bowel movement\ day	Anal soiling	Recurrent constipation	Abdominal distension
Less than 1 year	3	Not achieved, not toilet trained	Yes1 No 2	2-4	Yes 2 No1	Yes1 No 2	Yes 1 No 2
From 1year to less than 2 years	8	Not achieved, not toilet trained	Yes 6 No2	2-3	Yes 2 No 6	Yes 3 No 5	No8
From 2years to less than 3year	4	1 achieved, toilet trained. 3 Not achieved, not toilet trained	Yes 4	1-2	Yes 1 No3	Yes 4	Yes 2 No 2
More than 3 year	7	6 achieved, toilet trained. 1 Not achieved, not toilet trained	Yes 7	1	Yes 3 No 4	Yes 3 No 4	No7



# Discussion:

- TSARP is considered more acceptable in regard to a surgical outcome and aesthetic appearance of perineum as there is no visible scar mark in the perineum and strength of perineum is good as there is no interference of pelvic diaphragm.



We recommend anal dilatation under general anesthesia on the 2<sup>nd</sup> or 3<sup>rd</sup> postoperative day to decrease incidence of constipation.

- The belief that a protective colostomy may prevent wound infection is questionable .
- We recommend another studies comparative between three stage and one stage TSARP.
- Also, we recommend another comparative studies between TSARP, ASARP and PSARP as regard functional and cosmetic result for cases of vestibular anus.



# Conclusion:

- Trans-sphincter anorectoplasty (TSARP) is easy to perform with reasonable operative time, good cosmetic and functional outcome.
- Separation of the rectum from the posterior wall of the vagina is the most delicate step of the operation, takes place under direct vision.
- It has the advantages of being performed as one rather than three stages; it can be performed in infants as well as adults.
- Constipation is an essential problem in patients that can be managed by laxatives and frequent anal dilatation.



Thank You



Sarah Abdelmohsen , Aswan University, Aswan ... -  
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Sara.magdy@aswu.edu.eg