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Original Research Paper

General Surgery

APPLICATION OF POSTERIOR SAGITTAL ANO-RECTOPLASTY IN 3RD DEGREE PERINEAL TEAR IN ADULTS.

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ABSTRACT

Perineal injuries in adults is a wide spectrum of presentations ranging from minor skin tears to severe lacerations, usual causes being blunt trauma, obstetric injuries and sexual abuse.

The general consensus amongst surgeons regarding management of severe perineal tear revolves around fashioning a colostomy with delayed perineal reconstruction.

The aim of our study is to present PSARP (posterior sagittal ano-rectoplasty approach,) for third degree perineal tear.

PSARP is used for repairing congenital anorectal malformations to reconstruct the perineal body and sphincter complex, with the goal of creating a good cosmetic result and to allow the patient to regain faecal continence.

In this study, the medical records of 24 patients who presented with perineal injuries secondary to precipitated labour, episiotomy and bull horn injury, were retrospectively reviewed.

Third degree perineal tears simulates rectovestibular fistula, an anorectal malformation (ARM) in the paediatric age group. The treatment for rectovestibular fistula is PSARP which aims at reconstruction of the perineal body and muscle complex for recreating a neoanus, the same principle which has been used in the repair of third degree perineal tear. Thus, PSARP is an anatomical and physiological repair.

The use of PSARP for the third degree perineal tear is a novel concept of which the results seen are extremely promising.

KEYWORDS :

INTRODUCTION

The severity of perineal injuries in adults can range from minor skin tears to severe lacerations involving the anal sphincter, urogenital tract, and can even involve intraperitoneal extension.[1] They can be due to blunt trauma, impalement injuries, obstetric injuries, or sexual abuse.

There are controversies regarding the best way to assess and manage adult patients with perineal trauma with the vast majority of work focused on the acute management. For severe injuries, most authors recommend fashioning a colostomy with delayed perineal reconstruction. However, to our knowledge, no specific technique for perineal reconstruction has been described.

The aim of our study is to present 24 adult patients with third-degree perineal injuries and to describe a surgical technique derived from the posterior sagittal ano-rectoplasty (PSARP) approach, used for repairing congenital anorectal malformations to reconstruct the perineal body and sphincter complex with the goal of creating a good cosmetic result and to allow the patient to regain faecal continence.

An extensive literature review was conducted focusing on case reports, case series, and original articles involving the acute management of perineal injuries and perineal reconstruction in the adult population.

PATIENTS AND METHODS

After obtaining ethics-committee approval, the medical records of 24 patients who presented with perineal injuries secondary to precipitated labour, episiotomy and bull horn injury, were retrospectively reviewed. Information regarding time of presentation, type of medical and surgical management, development of complications, and outcome in terms of bowel control was recorded.

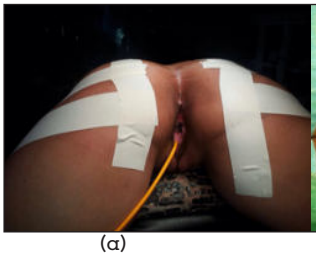
Case Reports

Out of the 24 cases,

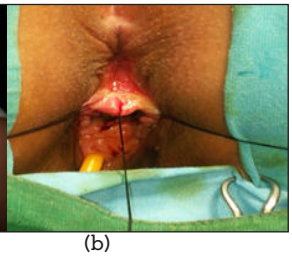
1. 9 of them developed perineal tear due to home deliveries,
2. 8 developed perineal tear due to a posterior episiotomy,
3. 3 developed perineal tear due to obstructed labour,
4. 1 developed perineal tear due to bull horn injury,
5. 3 developed perineal tear due to traumatic vaginal hysterectomies.

Surgical Technique

- A URINARY CATHETER IS PLACED & PRONE JACK KNIFE POSITION IS GIVEN fig (a).
- STAY SUTURES ARE TAKEN ON VAGINA fig (b).
- STAY SUTURES ARE TAKEN ON RECTUM fig (c).
- POSTERIOR SAGITTAL INCISION IS TAKEN fig (d).
- RECTUM IS MOBILISED (e).
- RECTUM IS THEN SEPARATED FROM VAGINA BY USING NEEDLE DIATHERMY fig (f).
- THE POSITION OF THE SPHINCTER COMPLEX IS ASSESSED WITH THE MUSCLE STIMULATOR.
- PERINEAL BODY AND MUSCLE COMPLEX ARE SUTURED AROUND THE RECTUM WITH INTERRUPTED ABSORBABLE SUTURES AND THE SPHINCTER COMPLEX IS REAPPROXIMATED fig (g).
- ANOPLASTY IS DONE fig (i).
- THE SKIN IS THEN CLOSED WITH INTERRUPTED ABSORBABLE SUTURES fig (j).



(a)



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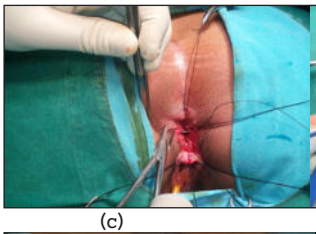

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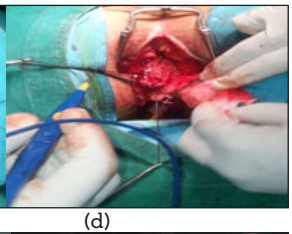

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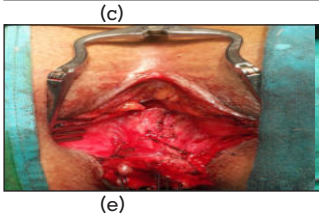

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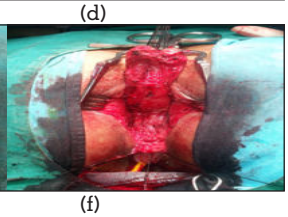

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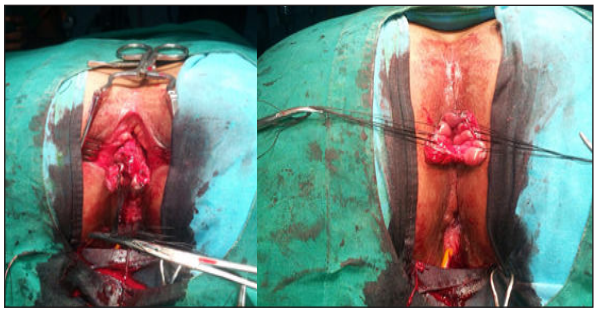
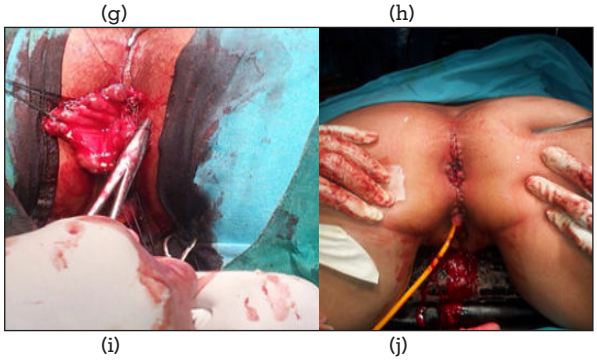


(g) (h)



(i) (j)

Postoperatively antibiotics are given for 48 to 72hours, the urinary catheter is kept in place for 24hours and the patient can be discharged home after 48hours if a covering colostomy is present. The stoma can be reversed once the perineal wound is healed and an examination under anaesthesia shows a patent anus completely surrounded by sphincter muscles.

Follow up-
All patients were followed up at 1 week, 3 weeks, 6 weeks, 3 months and 6 months interval. There was no anal incontinence, dyspareunia and recto-vaginal fistula formation in any of the patients.

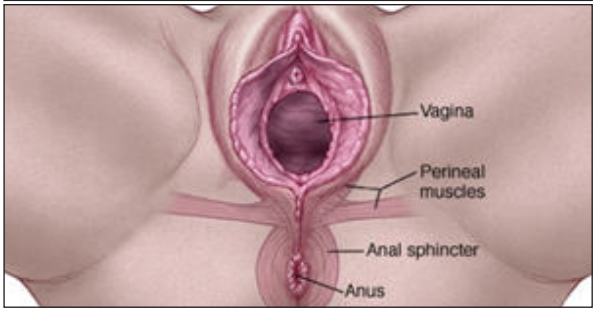
RESULTS

- Out of the 24 cases, all 24 patients developed bowel continence.
- Two patients developed anal stenosis which was managed conservatively with regular anal dilatation.
- One patient developed superficial skin gape, managed by dressing.
- Third degree perineal tears simulates rectovestibular fistula, an anorectal malformation (ARM) in the paediatric age group
- The treatment for rectovestibular fistula is PSARP which aims at reconstruction of the perineal body and muscle complex for recreating a neoanus, the same principle which has been used in the repair of third degree perineal tear.
- Thus, PSARP is an anatomical and physiological repair.

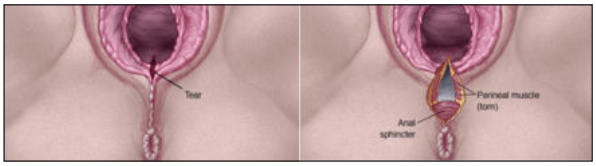
DISCUSSION

In India, a third- or fourth-degree tear (also known as obstetric anal sphincter injury – OASI) occurs in about 3 in 100 women having a vaginal birth. It is more common with a first vaginal birth, occurring in 6 in 100 women, compared with 2 in 100 women who have previously had a vaginal birth. Perineal injuries can be classified according to the genital injury score (GIS) or according to the Sultan's classification.[1,2]The former is in an anatomical classification that can be used for children of both genders, and it groups perineal injuries into five different types according to the extent of the injury.[3,4,5]It does not take into consideration that the mechanism of the perineal injury, however, most of the injuries from sexual assault belong to 3rd and 4th degree. The latter is specific for birth-related perineal tears in women and only applies to female patients.

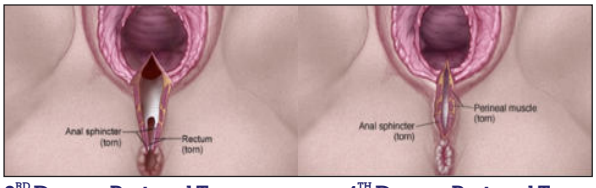
Onen's classification for genital injuries in children	*Sultan classification for birth-related perianal tears*
Grade I: Isolated laceration below hymen or limited to penile and/or scrotal skin	**First degree**: Laceration limited to the fourchette and superficial perineal skin or vaginal mucosa. Intact perineal body.
Grade II: Isolated laceration including hymen or tunica dartos of scrotum and/or Bucks fascia of penis	**Second degree**: Laceration extends beyond fourchette, perineal skin, and vaginal mucosa to perineal muscles and fascia but not the anal sphincter. Perineal body involved.
Grade III: Isolated genital laceration including vagina or testis and/or penile cavernous or distal urethra	**Third degree**: Fourchette, perineal skin, vaginal mucosa, muscles, ana anal sphincters are torn a) Partial tear of the external anal sphincter involving less than 50% thickness b) >50% of external anal sphincter thickness torn c) Internal anal sphincter torn
Grade IV: GIS II or III plus partial tear of anorectum	**Fourth degree**: Fourchette, perineal skin, vaginal mucosa, muscles, anal sphincter, and anorectal mucosa are thorn
Grade V: injury plus complete tear of anorectum	



NORMAL ANATOMY OF ANO-GENITAL REGION IN FEMALES



1ST Degree Perineal Tear 2ND Degree Perineal Tear



3RD Degree Perineal Tear 4TH Degree Perineal Tear

Our technique is based on the principles learned from the PSARP. However, only the posterior vaginal wall and the anterior rectal wall are mobilized. The posterior aspect of the rectum is left completely untouched thus preserving nerves, sphincter muscles, and the anoderm. This approach allows excellent exposure without sacrificing nerves and muscles. Moreover, reaching the fibroareolar plane allows a complete separation between rectum and vagina and minimizes the risk of postoperative rectovaginal fistulae. The prone position is ideal as it provides the best visualization.

The long-term results achieved both from cosmetic and functional points of view in our presented approach are very promising, with no surgically related complications observed so far. We are aware that the series in which we have used this new technique is too small to draw any significant conclusion; however, the outcomes are good in terms of bowel control and cosmesis.

CONCLUSION

- The use of PSARP for the third degree perineal tear is a

novel concept of which the results seen are extremely promising.

- We propose, this new surgical technique leads to successful outcome in terms of bowel control and good cosmetic results. The prone position and good repair of the perineal body, provided by separating fully the posterior vaginal wall from the anterior rectal wall, are the key elements.

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