Original Article

Outcome of Secondary Surgical Repair of 3rd and 4th Degree Obstetric Perineal Tears

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Abstract

Objective: to analyze the outcome of secondary repair of 3rd and 4th degree obstetric anal sphincter injuries (OASI) as a result of a failed initial surgical repair or missed injury at initial occurrence.

Study Design: a descriptive analytic study.

Place and Duration: Pakistan Air force Hospital Mushaf and Pakistan Air force Hospital Lahore from September 2010 to December 2014.

Methodology: nineteen patients were evaluated for secondary repair of their 3rd and 4th degree perineal tears. Their detail demographic features were noted including age of patients, place and mode of delivery, technical expertise of person conducting delivery, grade of perineal tear and their related symptoms of bowel incontinence. Patients were prepared for secondary repair under general anesthesia using an overlapping method for external anal sphincter repair and end to end repair of internal anal sphincter. All the patients were followed for 01 year post-operatively and their level of satisfaction and success with the procedure was documented and evaluated. SPSS version 16 was used for making statistical analysis. P <0.05 was considered as statistically significant.

Result: surgery had a significant improvement in symptoms of the patients. Incontinence of flatus was the most common symptom and showed an improvement of about 68% (p<0.001). Fecal urgency improved by 83% (p< 0.000).Incontinence to liquid stools showed an improvement by 93% (p<0.06), whereas solid stool incontinence improved by 100% (p<0.004). Dyspareunia and perineal pain was relieved in 66.6% patients (p<0.08)

Conclusion: adequate surgical repair is most important in alleviating the symptoms of incontinence post-operatively even if done as a secondary procedure.

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Key Words: obstetric anal sphincter injury (OASI).

Introduction

Flatus incontinence is a common symptom after vaginal delivery. Involuntary flatus incontinence improves with passage of time and few women suffer from frank fecal incontinence.[1] Only 14% of woman having anal incontinence after vaginal delivery seek medical help.[2] Most women don't talk about anal incontinence after vaginal delivery out of embarrassment; therefore, a self-completion questionnaire may be a good way of asking about these symptoms that carry a lot of social, psychological, occupational, domestic, physical and sexual disturbances.[3] Many risk factors may be linked with the incidence obstetrical anal sphincter injuries (OASI) especially when vaginal deliveries are attempted at home circumstances under the supervision of inefficiently trained and ill equipped health care workers or they occur in a hospital environment when instrumental deliveries are performed by trained staff. Whatever the underlying reason may be, it is undoubted that such occurrences result in major patient morbidity including various degrees of flatus and fecal incontinence. These symptoms always affect the physical and psychological well-being of women involved. It is therefore important that repair should be attempted at the initial incidence under optimal circumstances but even if initial injury is missed or primary repair breaks down, secondary repair should always be attempted to alleviate patient of these disturbing symptoms.

Favorable results are anticipated with primary repairs done under ideal situations. Although, not that ideal ,secondary repairs even as late as 3 years after injury still warrant good results and must always be attempted. Our studies evaluate the results of such repairs in patients whose injuries were mismanaged at initial stage.

Methodology

Nineteen patients were evaluated after the repair of third and fourth degree perineal tear. The patients were followed for 01yr post-operative to document the grade of success with surgery and recurrence of symptoms.

Most of the patients had mix symptoms, but we considered the most disturbing problem as the main presenting symptom.

Patients with fecal urgency also had occasional flatus incontinence. Dyspareunia was not an isolated symptom. It was always accompanied with flatus/fecal incontinence. Similarly liquid and solid fecal incontinence also had accompanied flatus incontinence. Third degree were classified as tears involving vaginal mucosa, perineal muscles, Internal anal sphincter (IAS) & external anal sphincter (EAS) (3a,3b,3c) whereas fourth degree tear were those which also involved rectal mucosa. Endoanal ultrasound was done in only 4 patients that revealed external and internal anal sphincter defect. Patients were admitted a day before surgery. General anesthesia was used for all the patients. Repair was done with patients in lithotomy position. Injection Cefoperazone + salbactum 1gm was administered at the time of induction of anesthesia. The scar tissue was removed followed by repair of vaginal mucosa, perineal muscle (Transperineal muscle and bulbocavernous) thereby restoring the perineal body. IAS in 18 patients was identified as a pale whitish muscle that was repaired end to end with vicryl 2/0 in a figure of 8 stitch. EAS was identified as red fleshy muscle and was mobilized enough to bring the both ends in a double breasting /overlap method with vicryl 2/0. Rectal mucosa was repaired finally and a pyodine soaked

vaginal and rectal pack was inserted for 24hrs. Patient was shifted to post-operative ward after completion of surgery with cefoperazone + salbactum repeated every 12 hrs for next 3 days. Adequate analgesia was given with injection ketorolac initially for first 24 hrs, followed by oral dicloran potassium.

Results

Mean age of patients was 28 yrs SD±2.5. Various demographic features were noted as in table I.

Duration of symptoms ranged from the time after delivery to 03 yrs. with a mean duration of symptoms of 12 months. 12 patients after having 3th and 4th perineal tears did not have subsequent pregnancies. Of the remaining 7 patients 4 had C-section for subsequent deliveries whereas, 3 had vaginal deliveries at home.

Symptoms of the patients regarding incontinence were tabulated in Table I and II.

Table I. Demographic features (n=19)		
Mode of Delivery	Normal vaginal deliveries	12
	Vacuum	4
	Forceps	3
Place of Delivery	Home	10
	Hospital	9
Grade of Tears	3rd degree	13
	4th degree	6
Parity	Primigravida	8
	Multigravida	11

Table II. Symptomology (n=19)	
Flatus incontinence	19
Fecal urgency	14
Liquid stool incontinence	10
Dyspareunia	6
Solid stool incontinence	4

Patients were given fluid diet for next 03 days to avoid defecation. Mild laxative were given for next 06 weeks so as to keep stools soft. Patients were examined at 01 week post-operative, 02 weekly till 03 months and 03 monthly for 01 year. (Table III) Patients were advised to have contraception during this period of follow up and none got pregnant. The patients were advised to have their subsequent deliveries after 01 year of follow up in a tertiary care set up, where mode of delivery should be carefully assessed by a senior obstetrician. All the data was fed in SPSS version 16 to make analysis. Pearson x2 and Fisher exact test was used to make comparison of symptoms before and after surgery. P <0.05 was consider statistically significant.

Table III. Results after 01 year of follow up (n=19)			
Symptoms	**Before surgery**	**After surgery**	***P value***
Flatus incontinence	19	6	<0.001
Liquid fluid incontinence	10	2	<0.06
Solid stool incontinence	4	0	<0.004
Fecal urgency	14	4	<0.000
Dyspareunia	6	4	<0.08

All the symptoms present were not isolated but occurred in combinations. Flatus incontinence was the most common symptom. Surgery resulted in significant improvement of various symptoms. Although some of the problems were better resolved than the others Incontinence of flatus showed an improvement 68.5% over 01 year of follow up after surgery. Among the six patients who remained incontinent to flatus, two of them showed mild to moderate improvement in the frequency of incontinence to flatus, while rest did not improve. Fecal urgency was present in 14/19 patients and showed an improvement by 71.4%. Incontinence to liquid stool was a frequent embarrassing complaint and improved by 80% after surgery. Solid stool incontinency showed most promising results as all the four patients that underwent sphincter repair were completely relieved of their symptom but still had flatus incontinence in 2/4. Results of Dyspareunia was not

much encouraging ,although 2/6 showed some benefit as regard to improvement of quality and frequency of pain. There was no case of local infection, wound dehiscence or breakdown of repair.

Discussion

Anal sphincter injury after vaginal delivery is an important happening leading to disturbing and embarrassing sequelae. 20-50% 0f women who have obstetric anal sphincter injury (OASI) during vaginal delivery suffer various grade of anal incontinence.[1] OASI occur in 3.6%-15% of all vaginal deliveries as revealed or occult injuries.[3] Incidence of anal sphincter rupture for mediolateral episiotomy is 0.5%-2.5% whereas for midline episiotomy is 7%.[1] Therefore, midline episiotomies are more prone for OASI. In U.K rate of OASI is 1% of all vaginal deliveries. 20.2% of women delivered vaginally have episiotomies. And about 12.4% of these tears are not repaired.[4] Other risk factors are macrosomia, use of forceps, vacuum deliveries, occiput posterior, prolonged second stage of labour and epidural analgesia.[5,6] Third degree and fourth degree lacerations result in bowel incontinence, whereas, fourth degree injuries affect more than the third degree tear.[7] Although the risk factors of OASI in developing countries are same as in developed countries but prevalence of incontinence is more in third world developing countries[8] The main reason remains misdiagnosis, incorrect recognition of injuries and inadequate repair leading to late treatment and increased morbidity. [8,9,10]

Our study highlights this pitfall in management of these patients. In our study majority of OASIS occurred in deliveries that were conducted at home by a Lady Health Vsitor, who lacked the training ability to appreciate the risk factors and inability to recognize the grade of sphincter injuries resulting in post-partum anal incontinence. Moreover, other group of patients in our study were those in whom primary repair was done by staff member who were not properly trained to undertake a proper repair of sphincter with a good post-operative care. All these factors lead the patients into secondary repair of sphincter injuries.

Secondary repair of OASIS in patients whose injuries were either missed at first incidence or the perineal wound had broken down post-operatively after repair represents a surgical challenge. Cochrane Data base Systemic Review 2013 could not gather sufficient evidence to either approve or disapprove the benefit of secondary repair.[11] New studies involving randomized clinical trials are required to evaluate the outcome of secondary repair vs. no repair. Although, internal sphincter is repaired with end to end anastomosis using absorbable suture, there are mainly two methods of repair of external anal sphincters, “end to end repair vs. overlap repair. Data analysis has revealed better results in term of fecal urgency and anal incontinence symptoms with overlap method of repair of EAS than to end to end repair. Although long term follow up does not show any significant difference between the two methods.[12]

Primary repair with overlapping of external anal sphincter results in excellent outcome seen in a study conducted by Abramov Y et al. where only 9.5% patients complained of flatus incontinence and fecal urgency post-operatively, although the follow up period was too short i.e. 9.2 ± 1.4 months to predict any long term complications.[13,14] Results of repair may deteriorate with time especially after further vaginal deliveries.[15] Sacral nerve stimulation may be an appropriate alternative treatment modality.[16]

Our study evaluated the outcome of repair with overlapping technique, although, early postoperative results were promising but our study lacked long term effects of surgery especially if vaginal deliveries were

followed after healing of repairs. Therefore, we cannot predict with surety if symptoms of incontinence will recur with passage of time.

Conclusion

Missing or inadequate repair of 3rd& 4th degree obstetrics perineal tears result in embarrassing symptoms which can only be eliminated by adequate secondary repair using overlapping sphincteroplasty.

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