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Research Article

A Comparative Study between Intradermal and Conventional Closure of Episiotomy

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Abstract

An episiotomy is a surgically planned incision on the perineum and the posterior vaginal wall during the second stage of labor. Comparison between intra dermal by vicryl (2-0) and conventional closure of episiotomy by catgut (1-0) was objective of this study. The study was a cross sectional analytical study conducted in Dhaka Medical College Hospital. Fifty cases were included in each group. Complete history was taken from accompanying attendants. Thorough clinical examination was done. Relevant investigations report was collected. Out of 100 cases nearly half of the respondents were from 20-25year age group. Post partum pains of episiotomy wound at 48 hours were 78% among intradermal group and 82% among 4 point closure group. Complication between intradermal groups with 4 point closure group was wound dehiscence, perineal discomfort and perineal pain and it was significantly higher in 4 point closure group than intradermal group. In 4 point closure group complications were 28%, 26% and 24% respectively and 06%, 10% and 08 respectively in intradermal group. That means intradermal is significantly better than 4 point closure. It is concluded that Intradermal by vicryl 2-0 rather than 4 point closure by catgut, which is used for episiotomy repair leads to less perineal pain and a better healing. As this study was done in small size population, it is needed to do in large scale of population before recommendation of intradermal closure of episotomy.

Keywords: *Intradermal closure of episiotomy; Conventional closure*

Introduction

Now a day's episiotomy is the most common surgical approach in obstetrics [1]. Day by day it was increasing in vaginal deliveries in the United States, and this routine use of episiotomy has been increasingly questioned [2]. The use of episiotomy has been said to decrease trauma to the fetus, decrease the frequency of extensive perineal tears, and protect the soft maternal tissues, yet disagreement persists about its actual effectiveness. Episiotomy rates vary widely worldwide, depending on whether the procedure is used selectively or routinely [3]. In developing countries, episiotomy rates are still high as restrictive use of episiotomy has not been widely embraced in primigravidas. The episiotomy rate increased for younger patients with estimated weight> 4000g, when presentation was not occiput anterior and with deceasing parity. Provider characteristic, such as great number of years in practice or when the delivering physician was not the out patient physician, increases episiotomy rates. The overall episiotomy rate declined from 20.6% to 17.7% [4]. The aim of the study was to compare between intradermal and conventional closure of episiotomy. The result may have detected requirement of analgesic early mobility and condition of the wound among those patient under gone episiotomy.

Methodology

The study was an analytical study with cross sectional design. The study was conducted in-Obstetrics & Gynaecology Department of Dhaka Medical College Hospital from June'2013 to December'2013. Study population was patients with labor pain admitted in Obstetrics & Gynaecology Department of Dhaka Medical College Hospital. Fifty cases were intradermal group and 50 cases 4 point closure group. Serious risk of the mothers to second or third degree tear was included in the study. Jaundice, bleeding disorder patients were excluded. The pain was measured by using a Visual analogue scale. The patients were distributed in two groups, A was intradermal by vicryl (2-0) and B was 4 point closure by catgut (1-0). Group A: fifty patients who were sutured with intradermal by vicryl (2-0) and group B: fifty patients who were sutured with catgut (1-0). Sample was selected by systematically randomized trial. The patients were interviewed face to face by the researcher for the purpose of collection of data. Then the patients were examined by the researcher for certain signs and those were recorded in the check-list. Few investigations were done for supporting the diagnoses. After collection, data editing and clearing was done manually and prepared for data entry. Data were analyzed with the help of SPSS software program version-17. Descriptive analytic techniques involving frequency distribution, computation of percentage, mean, ± SD etc. was applied. Association between variables was conducted applying Pearson's chi-square test. p value< 0.05 was considered statistically significant.

Results

	Study group		
	Intradermal by vicryl (2-0)	Vertical mattress sutures by catgut (1-0)	Total
<20 years	13 (26)	16 (32)	29
20-25 years	23 (46)	21 (42)	44
26-30 years	10 (20)	08 (16)	18
> 30 years	04 (08)	05 (10)	09
Total	50 (100)	50 (100)	100

Table1: *Age distribution of the study group.*

Table 1 shows in intradermal group 13 (26%) were < 20 years, 23 (46%) were 20-25 years age group, 10 (20%) were 26-30 years age group and 04 (08%) were > 30 years age group. In vertical mattress sutures group 16 (32%) were < 20 years, 21 (42%) were 20-25 years age group, 08 (16%) were 26-30 years age group and 05 (10%) were > 30 years age group.

Gravida	Intradermal by vicryl (2-0)	Vertical mattress sutures by catgut (1-0)	Total
Primi	26 (52)	21 (42)	47
2nd	15 (30)	16 (32)	31
Multi	09 (18)	13 (26)	22
Total	50 (100)	50 (100)	100

Table2: *Distribution of Gravida of the study population.*

	Pain score			
48 hours pain	Intradermal by vicryl (2-0)	Vertical mattress sutures bycatgut (1-0)	Total	p value
0	07 (14)	04 (08)	11	0.56
1	18 (36)	17 (34)	35	
2	25 (50)	29 (58)	54	
Total	50 (100)	50 (100)	100	

Table 3: *Pain score observed 48 hours.*

Table 2 shows 26 (52%) were primi gravida in intradermal group and 21 (42%) were vertical mattress sutures group, 15 (30%) were 2nd gravida in intradermal group and 16 (32%) were vertical mattress sutures group, 09 (18%) were multi para in intradermal group and 13 (26%) were vertical mattress sutures group.

Table 3 shows pain score observed 48 hours, in intradermal by vicryl (2-0) 07 (14%) pain score 0, 18 (36%) pain score 1 and 25 (50%) pain score 2. In vertical mattress sutures by catgut 04 (08%) pain score 0, 17 (34%) pain score 1 and 29 (58%) pain score 2. (p value> 0.05) that was not statistically significant.

	After 5 days			
Pain	Intradermal by vicryl (2-0) n (%)	Vertical mattress sutures by catgut (1-0) n (%)	Total	p value
0	25 (50)	17 (34)	42	0.09
1	22 (44)	24 (48)	46	
2	3 (06)	9 (18)	12	
Total	50 (100)	50 (100)	100	

Table 4: *Pain score observed after 5 days.*

Table 4 shows pain score observed after 5 days, in intradermal by vicryl (2-0) 25 (50%) pain score 0, 22 (44%) pain score 1 and 03 (06%) pain score 2. In vertical mattress sutures by catgut 17 (34%) pain score 0, 24 (48%) pain score 1 and 09 (18%) pain score 2. (pvalue > 0.05) that was not statistically significant.

	Wound Healing			
	Intradermal by vicryl (2-0)	Vertical mattress sutures by catgut (1-0)	Total	p value
1st Intention	43 (80)	38 (76)	75	0.56
2nd Intention	06 (12)	11 (22)	20	
3rd Intention	01 (02)	01 (02)	05	
Total	50 (100)	50 (100)	100	

Table 5: Wound healing of the study population.

Table 5 shows wound healing of the study population, in intradermal by vicryl (2-0) 43 (80%) 1st intention, 06 (12%) 2nd intention and 01 (2%) 3rd intention. In vertical mattress sutures by catgut 38 (76%) 1st intention, 11 (22%) 2nd intention and 01 (02%) 3rd intention.

	Intradermal by vicryl (2-0)	Vertical mattress sutures by catgut (1-0)	Total	p value
Indurations	04 (08)	08 (16)	12	0.21
Feeling of slight stitches	06 (12)	15 (30)	21	0.02
Wound dehiscence	02 (04)	08 (16)	10	0.04
Wound discharge	00	03 (06)	03	0.24
Wound resuturing	00	02 (04)	02	0.49

Table 6: *Complications of the study population.*

Table 6 shows complications of the study population, indurations 04 (08%) were intradermal by vicryl (2-0) and 08 (16%) were vertical mattress sutures by catgut (1-0). Feeling of slight stitches 06 (12%) were intradermal by vicryl (2-0) and 15 (30%) were vertical mattress sutures by catgut (1-0). Wound dehiscence 02 (04%) were intradermal by vicryl (2-0) and 08 (16%) were vertical mattress sutures by catgut (1-0). Wound discharge 03 (06%) and wound resuturing 02 (04%) were in vertical mattress sutures by catgut (1-0).

Discussion

This is a prospective cross-sectional study which was conducted to inpatients Department of Gynaecology & Obstetrics, Dhaka Medical College Hospital with a sample size of 50 cases for a period from June'2013 to November'2013. The majority of those who had episiotomies were primigravidae. This is similar to the findings reported from other centres, especially where a liberal policy on episiotomies is adopted and may reflect a belief that episiotomy is beneficial for all first births [5-7]. Wound healing is a naturally occurring process and it also has an impact on the quality of life. A wound healing by secondary intention was observed in 12% cases in the VICRYL group and in 22% cases in the CATGUT group. A tertiary type of healing was seen in 2% cases in the Catgut group and in none of the cases in the vicryl group. The results were statistically significant which we can compare to various international studies [8-11]. There was no statistically significant reduction in the pain in the first 48 hours. However, only 14% of the women complained of perineal pain which required analgesics in the VICRYL RAPIDE group, as compared to 08% women in the CHROMIC CATGUT group, which was statistically significant. On the subsequent follow up at 5 days (50% vs 34%) the postpartum period showed a statistically significant reduction in the perineal pain in the vicryl rapide group. One study reported more pain and requirement of analgesics in the polyglactin 910 group than in the CATGUT group (61.1% vs 55.1%) and (88.1% vs 86.9%) respectively at 48 hours. On day 5 and day 20, There was less pain and analgesics were required in the polyglactin 910 group than in the CATGUT group [(19.5% vs 24.6%), (5.6 vs 16%) and (68.5% vs 61%), (3.3 vs 18%)] respectively [8]. Greenberg JA *et al*. [12] reported that there was a statistically significant reduction in the pain (25% vs 34%) in the fast absorbing polyglactin group at 24-48 hours. There were no significant differences between the two groups at 10-14 days. In this study parameters assessed in episiotomy suturing, Indurations 04 (08%) were intradermal by vicryl (2-0) and 08 (16%) were vertical mattress sutures by catgut (1-0). Feeling of slight stitches 06(12%) were intradermal by vicryl (2-0) and 15 (30%) were vertical mattress sutures by catgut (1-0). Wound dehiscence 02 (04%) were intradermal by vicryl (2-0) and 08 (16%) were vertical mattress sutures by catgut (1-0). Wound discharge 03 (06%) and wound resuturing 02 (04%) were in vertical mattress sutures by catgut (1-0). A study which was done by Shah PK *et al*. [10] reported that a wound swelling was seen in 6.5% cases in the VICRYL group and in 7.6% cases in the CATGUT group in the first 24-48 hours and in 2.8% cases in the VICRYL group and in 3.4% cases in the CATGUT group on the 5th day, which was statistically significant. Wound dehiscence was observed in 4% of the cases in the VICRYL group and in 16% cases in the CATGUT group at 5 days, which was statistically significant. Shah PK *et al*. [10] reported that wound gapes were seen more in the CATGUT group than in the polyglactin group. One case in the CATGUT group required resuturing. Kettle C *et al*. [13] reported that less suture dehiscence (OR 0.45, 95% CI 0.29 to 0.70) was found in the vicryl group than in the CATGUT group. This study had some limitations. The limitations of the studies were as follows: This study was conducted in only one hospital that does not represent whole country. The sample size was small and study period was short.

Conclusion

In conclusion if the episiotomy is indicated it has been shown that Intradermal by vicryl 2-0 rather than vertical mattress sutures by catgut, which is used for episiotomy repair leads to less perineal pain and a better healing. Intradermal group required fewer analgesics. The wound healing was good in intradermal group. The wound dehiscence was less in intradermal by vicryl. Wound dehiscence, perineal discomfort and perineal pain were significantly higher in vertical mattress sutures group were 28%, 26% and 24% respectively and 06%, 10% and 08 respectively in intradermal group.

Bibliography

1. S Kettle C and Tohill S. "Perineal Care". *Clinical Evidence* 9 (2008): 1401-1418.

2. Ola ER., *et al*. "Episiotomy in Nigeria: Should Their Use be Restricted?". *The Nigerian Postgraduate Medical Journal* 9.1 (2002): 13-16.

3. Sosa CG., *et al*. "Risk Factors for Postpartum Hemorrhage in Vaginal Deliveries in a Latin-American Population". *Obstetrics and Gynaecology* 113.6 (2009): 1313-1319.

4. Centers for Disease Control and Prevention, *National Center for Health Statistics*, Hospital procedures, all-listed: US, 1990-2007.

5. American College of Obstetrics and Gynecology: *Episiotomy Practice Bulletin* No. 71 (2006).

6. "Methods and Materials used in Perineal Repair". *Royal College of Obstetrics and Gynaecology* (2004).

7. Murray Enkin., *et al*. "A Guide to Effective Care in Pregnancy and Childbirth". *3rd edition, Oxford, U.K*, chapter 36: 342-345.

8. Taliaferro RM. "Rigidity of soft parts: Delivery effected by incision in the perineum". *Stethoscope Va Med Gazette* 2 (1852): 383.

9. Signorello LB., *et al*. "Midline Episiotomy and Anal Incontinence: Retrospective Cohort Study". *British Journal of Medicine* 320.7227 (2000): 86-90.

10. Shah PK., *et al*. "A Randomized Comparative Study of Polyglactin-910 vs Chromic Catgut for Postpartum Episiotomy Repair: A Pilot Study". *Journal of Obstetrics and Gynaecology* 6.8 (2001): 465-468.

11. Mackrodt C., *et al*. "The Ipswich Childbirth Study: 2. A Randomized Comparison of Polyglactin-910 with Chromic Catgut for Postpartum Perineal Repair". *British Journal of Obstetrics and Gynaecology* 105.4 (1998): 441-445.

12. Greenberg JA., *et al*. "Randomized Comparison of Chromic versus, Fast Absorbing Polyglactin-910 for Postpartum Perineal Repair". *Obstetrics and Gynecology Journal* 103.6 (2004): 1308-1313.

13. Kettle C and Johnson RB. "Absorbable Synthetic versus Catgut Suture Material for Perineal Repair". *Cochrane Database of Systematic Reviews* 2 (2000).

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