

**COMPARISON OF OUTCOME (IN TERMS OF PERINEAL PAIN) OF VICRYL SUTURE
VERSUS CHROMIC CATGUT SUTURE FOR EPISIOTOMY REPAIR**¹*Dr. Mubasher Saeed Pansota, ²Dr. Hina Ilyas and ³Dr. Sadia Shakeel¹Department of Obstetrics & Gynecology, Civil Hospital, Bahawalpur.²Assistant Professor, Department of Obstetrics & Gynecology, Sahiwal Medical College & Teaching Hospital, Sahiwal.³Senior Registrar, Department of Obstetrics & Gynecology, Bahawal Victoria Hospital, Bahawalpur.

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ABSTRACT

Introduction: The type of suturing material used for perineal repair may also have an effect on the amount of pain, wound dehiscence and superficial dyspareunia experienced by women following childbirth. Suture materials used are absorbable and non-absorbable. Absorbable suture materials used are chromic catgut, polyglycolic acid and polyglactin while non-absorbable sutures are silk, nylon etc. **Objectives:** To compare the outcome (in terms of perineal pain) of vicryl rapide suture versus chromic catgut suture for episiotomy repair. **Study design:** Randomized controlled trial. **Materials & Methods:** A total of 100 women undergoing episiotomy during vaginal delivery, 18 to 35 years of age were included. Patients with multiple pregnancy, instrument delivery, breech presentation and any chronic disease were excluded. Then selected were divided into two equal groups (A & B) by lottery method. All the patients were assessed by the researcher for perineal pain assessment and final outcome (satisfactory/unsatisfactory) was measure at 5th day post-operatively. **Results:** The mean age of women in group A was 27.48 ± 3.59 years and in group B was 27.36 ± 3.52 years. The mean gestational age in group A was 39.48 ± 1.27 weeks and in group B was 39.38 ± 1.28 weeks. The mean parity in group A was 2.64 ± 0.94 and in group B was 2.58 ± 0.97 . Outcome was satisfactory (no perineal pain) in 18 (36.0%) patients in Group A (chromic catgut) while in Group B (vicryl rapide), it was seen in 36 (72.0%) patients with p-value of 0.0001. **Conclusion:** This study concluded that outcome of vicryl rapide suture is better as compared to chromic catgut suture in terms of perineal pain following episiotomy repair.

KEYWORDS: Episiotomy, vicryl, chromic catgut, perineal pain.**INTRODUCTION**

An episiotomy also known as perineotomy, is a surgical incision of the perineum and the posterior vaginal wall generally done by a midwife or obstetrician during second stage of labor to quickly enlarge the opening for the baby to pass through. The two most common types of episiotomies which are made are the midline or median and the mediolateral.^[1,2] It is one of the most common medical procedures performed on women, and although its routine use in childbirth has steadily declined in recent decades, it is still widely practiced in many parts of the world including Asian countries.^[3] Variety of benefits have been claimed for episiotomy, including substitution of straight surgical incision for ragged laceration, prevention of trauma to fetal head, reduction of perineal lacerations and prevention of subsequent pelvic relaxation.^[4] But actually episiotomy itself a predisposing factor of severe perineal lacerations and causing maternal morbidity.^[5]

new mother when she is trying to cope with hormonal changes and the demands of her baby and it can have a long term effect on the sexual relationship. Approximately 70% of women who have a vaginal birth will experience some degree of damage to the perineum, due to tear or episiotomy and will need stitches. This damage may result in immediate perineal pain lasting upto two weeks after the birth, and some women experience long term pain and discomfort during sexual intercourse. Perineal trauma occurring during spontaneous or assisted vaginal delivery is usually more extensive after the first vaginal delivery.^[6] It is defined as any damage to genitalia during childbirth that occurs spontaneously or is intentionally made by performing a surgical incision (episiotomy).^[7] For those women who sustain perineal injury, it is important that skilled personnel repair the trauma using the best suturing technique and suture materials in order to minimize any associated short and long term morbidity.

The impact of perineal trauma can be distressing for the

Having had a surgery in the perineum increases pain and discomfort and interferes with normal activities during postpartum recovery. It even influences the relation between the mother and the infant.⁸ Efforts to reduce morbidity from post-episiotomy perineal pain included, adoption in technique of repair, type of suture material used and the skill of the operator.^[9] The type of suturing material used for perineal repair may also have an effect on the amount of pain, wound dehiscence and superficial dyspareunia experienced by women following childbirth.^[9] Suture materials used are absorbable and non-absorbable. Absorbable suture materials used are chromic catgut, polyglycolic acid and polyglactin while non-absorbable sutures are silk, nylon etc.⁹ Most modern material that are used to stitch the perineum are gradually absorbed and need not be taken out. Debate flourishes among the practitioners about the appropriate material which should be used. The newer polyglycolic acid suture materials elicit less inflammatory tissue response than chromic catgut.^[10] The use of synthetic materials in the perineal repairs reduces the postpartum pain and it also provides a better wound healing.^[5,11] In a study by Bharathi A et al¹², no perineal pain following episiotomy was found in 57% patients in which vicryl suture used as compared to 32.5% patients in which chromic catgut suture used.

As the type of suture material directly affects the perineal pain following episiotomy repair, so the rationale of this study was to compare the outcome (in terms of perineal pain) of vicryl suture versus chromic catgut suture for episiotomy repair. Although, previously studies were available on this but all these are done internationally and no local data available on this topic. Our study will not only add up the local data to the existing literature but also we can provide our population with such suture material among these two which will be associated with no perineal pain. Also on the basis of this clinical evidence, this can be applied routinely in our general practice for these particular patients that will ultimately reduce their morbidity and improve their quality of life.

METHODOLOGY

This randomized controlled trial was conducted at the Department of Obstetrics & Gynecology, Civil Hospital & Bahawal Victoria Hospital, Bahawalpur, from August 2016 to February 2017. The calculated sample size was 100 i.e. 50 cases in each group, with 5% level of significance, 80% power of study and taking no perineal pain after vicryl suture as 57.0%¹² and chromic catgut

suture as 32.5%.^[12] Women with singleton pregnancy with vertex presentation, undergoing episiotomy during vaginal delivery for delivering the baby of age 18-35 years were selected. Patients with multiple pregnancies, instrumental vaginal deliveries, breech presentation, H/O any chronic disease i.e. diabetes mellitus, chronic hypertension and chronic renal failure, History of any bleeding disorder i.e. hemophilia were excluded. Approval from institutional ethical review committee was taken before inclusion. After taking informed written consent and explaining all the risks and benefits of the procedure, the selected patients were divided into two equal groups (A & B) by lottery method. In Group A cases, chromic catgut suture was used for episiotomy repair while in group B cases, vicryl suture was used for episiotomy repair. All the procedures were performed by the researcher himself. All patients were advised Tab. Diclofenac sodium 50mg 1xBD post-operatively for 4 days. All the patients were assessed by the researcher for perineal pain assessment and final outcome (satisfactory/unsatisfactory) was measure (as per-operational definition) at 5th day post-operatively. This all data was recorded on a specially designed proforma.

All the data was entered and analyzed by using SPSS version 19.0. Mean and standard deviation were calculated for quantitative variables. Frequency and percentage were calculated for qualitative variables. Chi square was used to compare the outcome of both groups and p-value ≤ 0.05 was considered as significant.

RESULTS

Age range in this study was from 18 to 35 years with mean age of 27.42 ± 3.53 years. The mean age of women in group A was 27.48 ± 3.59 years and in group B was 27.36 ± 3.52 years. Majority of the patients 42 (42.0%) were between 26 to 30 years of age. The mean gestational age in group A was 39.48 ± 1.27 weeks and in group B was 39.38 ± 1.28 weeks. Majority of the patients 51 (51.0%) were of 40-41 weeks of gestation. The mean parity in group A was 2.64 ± 0.94 and in group B was 2.58 ± 0.97 . Majority of the patients 82 (82.0%) were of para-1 to 3. Distribution of patients according to type of episiotomy is shown in Table I.

Outcome was satisfactory (no perineal pain) in 18 (36.0%) patients in Group A (chromic catgut) while in Group B (vicryl rapide), it was seen in 36 (72.0%) patients with p-value of 0.0001 as shown in Table II.

Table I: Distribution of patients according to type of episiotomy in both groups.

Type of episiotomy	Group A (n=50)		Group B (n=50)		Total (n=100)	
	Frequency	%age	Frequency	%age	Frequency	%age
Midline	31	62.0	30	60.0	61	61.0
Mediolateral	19	38.0	20	40.0	39	39.0

Table II: Comparison of Outcome between both Groups (n=100).

		Group A (n=50)		Group B (n=50)	
		No. of Patients	%age	No. of Patients	%age
OUTCOME	Satisfactory	18	36.0	36	72.0
	Unsatisfactory	32	64.0	14	28.0

➤ P value is 0.0001 which is statistically significant.

DISCUSSION

The type of suturing material used for perineal wound repair may also affect the amount of pain, wound dehiscence and superficial dyspareunia experienced by women following childbirth. Absorbable suture materials used are chromic catgut, polyglycolic acid, and polyglactin while non-absorbable sutures are silk, nylon, etc. Polyglycolic acid and polyglactin cause minimal tissue reaction and inflammation as per current literature.^[13] I have conducted this study to compare the outcome (in terms of perineal pain) of vicryl rapide suture versus chromic catgut suture for episiotomy repair.

Mean age in my study was 27.42 ± 3.53 years. The mean age of women in group A was 27.48 ± 3.59 years and in group B was 27.36 ± 3.52 years. Outcome was satisfactory (no perineal pain) in 18 (36.0%) patients in Group A (chromic catgut) while in Group B (vicryl rapide), it was seen in 36 (72.0%) patients with p-value of 0.0001. In a study by Bharathi A et al¹², no perineal pain following episiotomy was found in 57% patients in which vicryl suture used as compared to 32.5% patients in which chromic catgut suture used.

According to the meta-analysis, mid-term absorbable synthetic material for perineal repair is associated with less short-term pain compared to traditional gut sutures but with increased rates of removal. Further research with alternative suture materials is needed.^[14] This disadvantage is reduced with short-term synthetic material and with a subcuticular continuous non-locking technique of episiotomy repair.¹⁵ However, the information regarding suturing material of perineal muscles is not extensive. There is a recommendation that a short-term synthetic absorbable suture (Vicryl Rapide) is a preferential material for all three layers in an episiotomy repair and so episiotomy can be sutured in a loose continuous non-locking technique with only two knots (at the beginning and at the end).^[16]

Kurian Joseph et al¹⁷ found significant decrease in analgesia use in polyglactin 910 rapide than chromic catgut in perineal repair post partum. Greenberg et al.¹⁸ found a statistically significant decrease in analgesic use (5% versus 10%; $P < 0.048$) in subjects randomly assigned to fast-absorbing polyglactin 910 in comparison to chromic catgut. A trial conducted by Mackrodt et al. found that 523 out of 886 (59.02%) women with their episiotomy sutured with synthetic suture and 591 out of 888 (66.55%) sutured with catgut had significant pain.¹⁹ Esa Bose and his colleagues also concluded that vicryl rapide is better affected in reducing pain as compared to

chromic catgut.^[20]

Another trial conducted by Joseph et al,^[21] reported that on lying posture fewer women in VR group complained pain as compared to CC, but the results were statistically insignificant ($P > 0.05$). In walking posture, during the early postpartum period, women in VR group had significantly lesser pain as compared to CC ($P < 0.05$), by the 30 th day all women in VR group were absolutely pain free; however, the number of women with pain on 42 nd day postpartum in CC group was minimal. In sitting posture, during an early postpartum period, though the women in the VR group appeared to have less pain as compared to the CC group, but the difference was too narrow to be significant. However, from the 7 th day onwards the women in the VR group had significantly lesser pain as compared to the other group in sitting posture. By 42nd postpartum, all women in VR group could sit comfortably, whereas, 30% women in CC group continued to have mild pain. Analgesic required was also low in the VR group after the 7 th day and was nil after the 30 th day. The suture material got completely absorbed in VR group, but residual suture material was observed in 18% of women in CC group. No significant difference was observed in the wound healing in the two groups.^[21]

In a study²², out of 100 patients the mean age of vicryl rapide group was noted as 24.72 ± 2.33 years, similarly the mean age of Chromic Catgut group was noted as 24.76 ± 2.60 years. The mean gestational age of the patients were noted as 38.07 ± 1.31 weeks. The mean gestational age of vicryl rapide group was noted as 37.96 ± 1.36 weeks and the mean gestational age of Chromic Catgut group was noted as 38.19 ± 1.27 weeks. Out of 100 patients 50 (50%) required analgesic treatment. Out of 50 patients only 1 (2%) patient required analgesic treatment on day 7 from Vicryl rapide group and 49 (98%) appeared from chromic catgut group, while out of 50 patients who do not require this treatment 49 (98%) appeared from vicryl rapide group and 1 (2%) appeared from chromic catgut group. Statistically there is highly significant difference between the study groups i.e. p-value = 0.000.22

CONCLUSION

This study concluded that outcome of vicryl rapide suture is better as compared to chromic catgut suture in terms of perineal pain following episiotomy repair. So, we recommend that vicryl rapide suture should be used as primary method for episiotomy repair in order to reduce maternal morbidity.

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