“FAST-ABSORBING POLYGLACTIN 910 VERSUS CHROMIC CATGUT lSUTURE FOR REPAIR OF EPISIOTOMY: A RANDOMIZED COMPARATIVE STUDY”

By

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ABBREVATIONS

ACOG – American College of Obstetricians and Gynaecologist

CC – Chromic catgut

EA – European Pharmacopoeia

EAS – External Anal Sphincter

FAP – Fast absorbing polyglactin 910

IAS – Internal Anal Sphincter

RCOG –Royal College of Obstetricians and Gynaecologists

USP – United States Pharmacopoeia

BMI – Body mass index

BP – Blood pressure

CVS – Cardiovascular system

EDD- Expected date of delivery

EFW – Estimated fetal weight

IP NO. – Inpatient number

LMP – Last menstrual period

RS- Respiratory System

USG – Ultrasound

SD – Standard deviation

BACKGROUND

Episiotomy is a surgical incision made in the perineum during the second stage of labour to extend the vaginal introitus and ease delivery. During delivery eighty five percent women who give birth will have to some extent perineal trauma ,and almost 2/3 rd of them need perineal tear repair. Of these mothers many experience perineal pain not just in immediate postpartum period but also at a later period postnatally.[8]

The repair of episiotomy by different types of suture material which is being used will have impact over the amount of pain and superficial dyspareunia in women over time both in the immediate postpartum period and also later as well.[9]

During delivery it is of utmost importance to take adequate care so as to reduce risk of damage to perineum at birth so as to prevent discomfort from perineal sutures.[10]

Hence appropriate suture material with best properties are chosen for perineal repair. As standard suture material for many years chromic catgut is being used for perineal repair.[11]

Newer suture materials like Polyglactin 910 are being used which raises question as to shift towards this as standard suture material. These days various other suture materials are available for repair of perineal lacerations caused by child-birth. Absorbable suture materials like Polyglactin 910 is less painful and causes better healing than chromic catgut. The need for removal of it due to its persistence is its commonest disadvantage.[10,12]

Compared to the standard polyglactin 910 suture material ,the fast absorbing variety is pre-treated to accelerate hydrolysis which gets absorbed in 42 days unlike standard polyglactin 910 which is 63 days and 90 days in case of chromic catgut. [11]

The advantage of synthetic material fast absorbing polyglactin 910 is the absence of problems associated with delayed reabsorption of suture material.[12]

These synthetic materials like polyglactin 910 and polyglactin rapide 910 are associated with less pain in sitting postures and while walking and also the need for analgesics is decreased as compared to chromic catgut. [13]

Hence, a study was conducted to compare the Synthetic polyglactin rapide 910 2-0 vs chromic catgut in our institution.

OBJECTIVES OF STUDY

To compare and evaluate the healing characteristics of fast- absorbing polyglactin 910 versus chromic catgut suture for episiotomy repair in terms of

1. Postpartum perineal pain and need for analgesia
2. Nature of wound healing

METHODS

A total of 200 women were taken into study and were allocated randomly into group A belonging to chromic catgut No 1 and group B fast absorbing polyglactin 910 no 2-0 for repair of episiotomy. After a thorough examination, the results were evaluated at 24-48 hours , 10-14 days and 6-8 weeks postnatally.

RESULTS

All the women included in the study were followed up at regular intervals and completed follow up successfully with no drop outs. Both the groups were compared with respect to demographical details such as age, period of gestation, Body mass index, Parity index.

In this study, the early postpartum period included 24 to 48 hours, during which there was a statistically significant difference (P=0.0031) in terms of perineal discomfort, with 18% of Group 1 experiencing severe pain and just 6% of Group 2 experiencing the same.

In addition, 54 percent of individuals in Group 1 reported tightness/uncomfort at the suture site, but 83 percent in Group 2 had no such complaints, which was statistically significant (P0.0001). After 10 – 14 days of postpartum we found that 61% of women were pain free in Group 2 as compared to 26% of Group 1 subjects and it was statistically highly significant(P<0.0001).

The trend of decreasing perineal pain was evidently demonstrated at 6 weeks postpartum, in the fast absorbing polyglactin 910 group (P=0.0235). Which was yet again proved as the need for analgesia was more in Group 1 as compared to Group 2 (P=0.0434).

We also discovered that the number of individuals with wound gaping in Group 1 was 14 percent, compared to just 4 percent in Group 1 after 10 to 14 days, which was statistically very significant (P=0.0135). None, however, required resuturing.

At 6 weeks postpartum, women in Group 1 revealed residual sutures in comparison to women in Group 2 (0 percent vs 13 percent, p value = 0.002). In terms of wound healing in both groups when compared at 6 weeks postpartum there was no statistically significant difference .

The wound infection rate as compared in both the groups was not statistically significant after 24 to 48hrs and 10 to 14 days postpartum , but after 6 weeks 4% of subjects in Group 1 had infection while none had in Group 2 (P=0.0434) being statistically significant.

CONCLUSION

This study shows that most of women who had episiotomy experience varying degrees of pain in postpartum , some of them continue to endure the same even at 6 weeks postpartum.
After 24-48 hrs following delivery in immediate postpartum period there was significant difference in the pain and discomfort perceived by the 2 groups which was seen at 10 – 14 days and also at 6weeks revealing distinct advantage of the fast absorbing polyglactin910 suture over the chromic catgut in terms of perineal pain and comfort.
Upon assessing wound healing at 24-48 hrs , at 10-14 days both the groups were found to be similar although the complications related like superficial wound

breakdown were established to be more in the chromic catgut group which was significant. At 6 weeks yet again no significant difference was seen in wound healing .
As a result, we discovered that the Fast-absorbing version of Polyglactin is effective in reducing some of the morbidity associated with perineal healing after delivery. There was significant decline with regards to pain perception and discomfort.
There was a considerable reduction in the need for analgesics.
The occurrence of wound dehiscence was significantly reduced, reducing the need for resuturing. None required suture removal as well.

As a result, rapid absorbing polyglactin 910 could be considered in place of conventional chromic catgut for perineal repairs.

Key words

Fast absorbing polyglactin 910; chromic catgut; episiotomy wound repair

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Table 25: Comparison of wound healing in both groups after 6 weeks post-partu

INTRODUCTION

Episiotomy is one of the most common procedures performed by an Obstetrician in the Labour Room. It is practised from 18th Century. An incision taken on the pudendum is called Episiotomy which is used in regular practise. The two principal categories are Midline and mediolateral episiotomies and alter by the level of perineal incision. When a fourchette midline episiotomy is performed, the perineal body in the midline is cut through before the external anal sphincter. Depending on the perineal length and degree of thinning the incision varies from 2 to 3 cm. At midline of the fourchette to the left or right at an angle 60 degrees the mediolateral episiotomy begins which is usually adapted method . [(1)] During crowning the angle accounts for distortion of perineal anatomy and leads to an incision of 45 degree from the midline for suturing . [(2)]

From the midline the lateral episiotomy begins 1 to 2 cm lateral to it angled either right or left from ischial tuberosity. As the crowning occurs a mediolateral episiotomy is given. [(3)] Analgesia is given prior to episiotomy with 2.5 % lidocaine – prilocaine cream while some suggest usage of 1 % lidocaine .1% Lidocaine is used more widely as it takes 1 hour for its effect to occur which is logistically difficult to practise. [(4)]

Episiotomy timing is pivotal because if conducted too early, incisional haemorrhage can arise, and if performed too late, lacerations can develop. When the head is visible during contraction to a diameter of 4 cm or less, episiotomy is usually performed. During forceps delivery episiotomy is given almost as a rule before application of blades. By comparing midline and mediolateral episiotomy types ,midline episiotomy is associated with anal sphincter lacerations. [(5)]

Self-perceived pain and dyspareunia are more associated with mediolateral episiotomy. [(6)] There was little difference in pain scores, dyspareunia, and trauma to the vaginal or perineal injuries, including OASIS, in one of the trials that comprised lateral and mediolateral types in primigravida. They also

claimed that mediolateral episiotomies need less time and suture to heal than lateral episiotomies, thus mediolateral episiotomies are the favoured incision. [7]

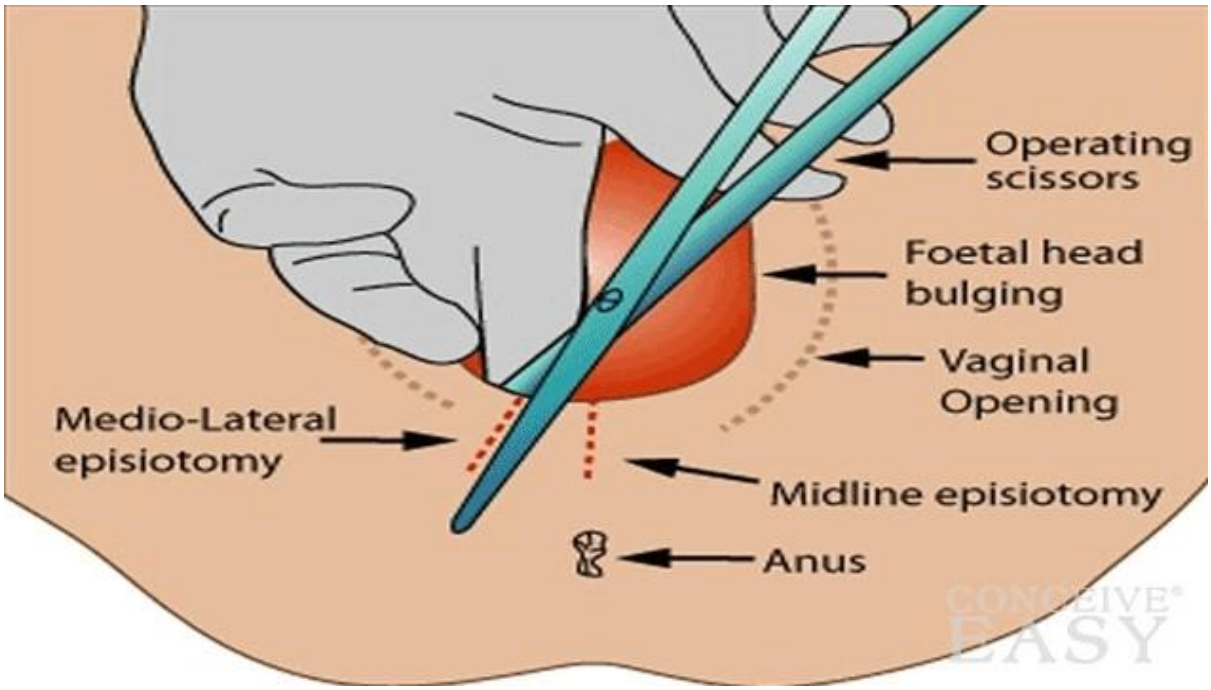


Figure 1- Right medio lateral episiotomy

The kind of suture material used mostly for episiotomy repair after delivery can have an influence on the pain and superficial dyspareunia women endure in the short and medium haul.[9]

The goal of obstetric care is to limit the risk of perineal injury during birth and to minimise pain and discomfort from perineal sutures[10].

As a result, it's important to identify sutures with the optimum characteristics for perineal healing.

Historically, these decisions have been influenced more by habit and expert advice. Chromic catgut has been the customary suture material for episiotomy healing for many years[11].

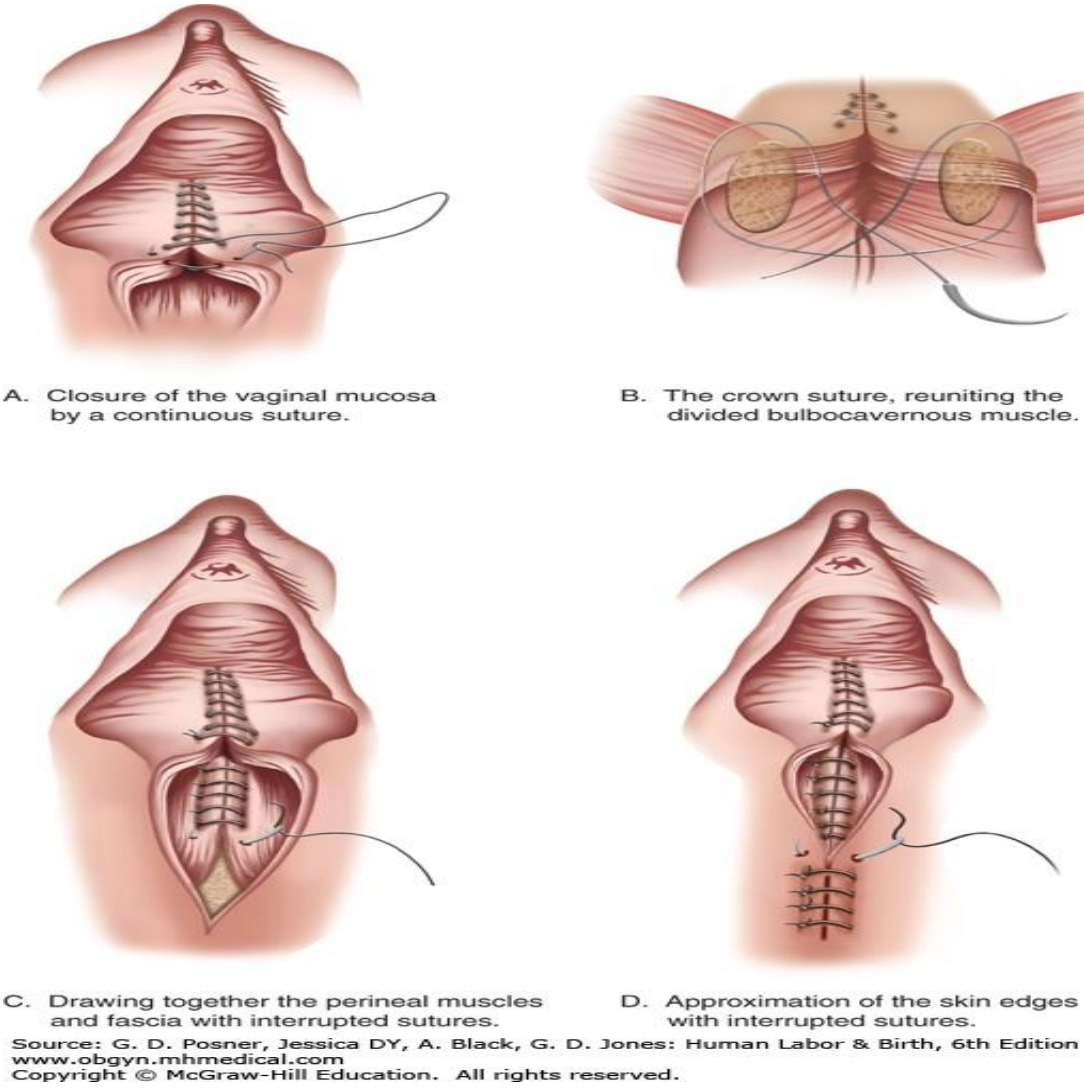


Figure 2 – Suturing of all three-layer episiotomy wound

With the development of newer absorbable suture materials, it's unclear if this criterion is still valid.

There are several different absorbable suture materials that may be used to mend perineal lacerations caused by childbirth. Synthetic absorbable sutures like Polyglactin 910 causes less pain and more secure healing than chromic catgut. Its disadvantage is persistence of the material that commonly needs removal.[10,12]

Standard polyglactin 910 suture material has been pre-treated with ionising rays to hasten hydrolysis in the rapid absorbing variant. This newer substance is referred to as fast absorbing. Polyglactin takes 42 days to absorb on average,

whereas Standard Polyglactin 910 takes 63 days and Chromic catgut takes about 90 days[11].

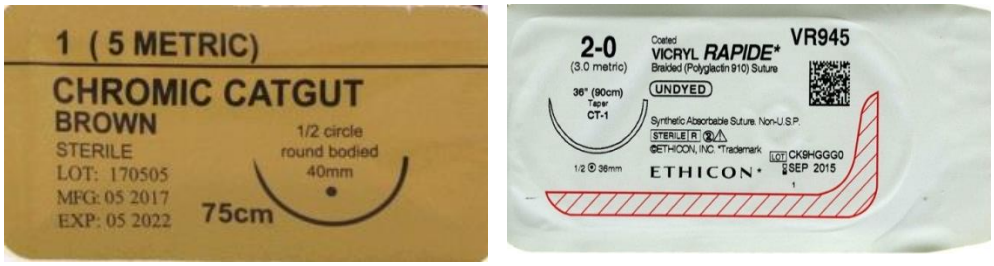


Figure 3 – Chromic Catgut and Fast absorbing polyglactin 910

Fast-absorbing polyglactin 910 sutures (Vicryl-rapide; Ethicon) may be able to provide the benefits of synthetic materials in the close future while avoiding the difficulties associated with delayed suture reabsorption[12].Removal of residual suture material was more common in polyglactin 910[13].

According to many trials and research, the recently developed fast absorbing polyglactin 910 possesses synthetic suture material characteristics as well as the benefit of rapid absorption. However, this is not a common practise. As a result, this study was undertaken to compare it to the traditional suture material utilised at our hospital for episiotomy incisions.

BACKGROUND

RELEVANT ANATOMY

VULVA SANS PUDENDA

Pubis to perineum all the structures that are visible externally are included in the vulva namely -Mons pubis, Labia majora , Labia minora, Hymen ,Clitoris ,Urethral opening , Vestibule ,Various glandular structures. [15]

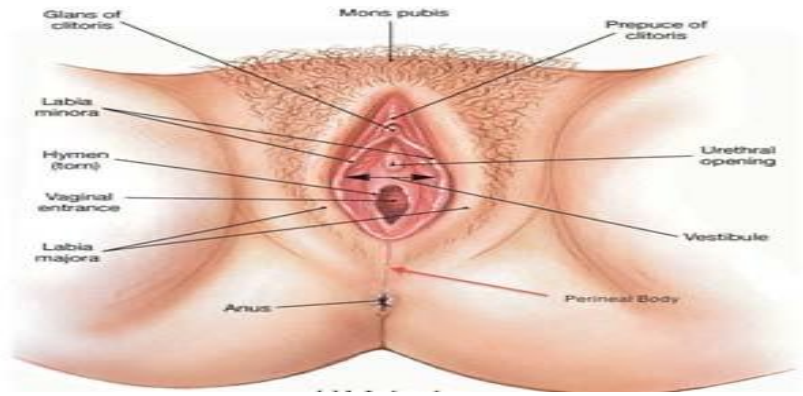


Figure 4 - The pudenda

MONS PUBIS

It lies over symphysis pubis and is filled with fat and covered by curly hair after puberty and called as escutcheon[15]

LABIA MAJORA

It is continuous with Mons Pubis directly and joins the perineum posteriorly and forms posterior commissure. It is covered with hair after puberty. It is richly supplied by sebaceous glands .The layer of dense connective tissue beneath skin is nearly devoid of muscular elements. It has rich venous plexus supply. In parous women the vasculature commonly develops varicosities during pregnancy. [15]

LABIA MINORA

It is a fold of thin tissue of either side of labia majora medially.

Both the folds of tissues superiorly converge and are further bifurcate into two lamella. The lower pair merge into frenulum of the clitoris. The upper pair together form the prepuce .Inferiorly they form fourchette at midline .

It is structurally made of connective tissue along with some muscular fibres and many vessels. It is also supplied with various nerve endings which are very sensitive.

It is covered by stratified squamous epithelium. It has sebaceous glands ,some sweat glands but no hair follicles. [15]

CLITORIS

It consists of glans ,corpus and 2 crura. It is the female erogenous organ principally which is small around 2cm in length and less than 0.5cm in dimeter. It is supplied by rich nerve endings which are extremely sensitive and covered by stratified squamous epithelium. [15]

VESTIBULE

It is an almond shaped structure that is covered by labia minora laterally. It extends from fourchette to clitoris posteriorly to anteriorly respectively. It is perforated by 6 openings namely the Urethra, Vagina ,ducts of Bartholin and paraurethral glands and also of skene glands. [15]

VESTIBULAR GLANDS

They are situated underneath vestibule about 0.5 to 1cm diameter, each of which open on either side of opening of vagina. At the lateral margin of orifice of vagina just outside the ducts open which are of 1.5cm to 2cm in length. They release mucoid material during sexual arousal. [15]

VESTIBULAR BULBS

On either side of vestibule beneath the mucous membrane erectile tissue aggregations which are almond shaped are present .They are richly supplied by veins and end at the middle of vaginal opening and extend towards clitoris upwards. These tissues can get injured during child birth and may rupture even and form vulval hematoma. [15]

VAGINAL OPENING AND HYMEN

Often in virgins ,the vaginal opening is closely hidden by overlapping labia minora. The hymen differs greatly in shape and consistency and is majorly composed of elastic and collagenous connective tissue and is covered by stratified squamous epithelium. It is devoid of glandular and muscular elements and is minimally supplied with nerve fibres. Due to childbirth changes called hymen caruncles takes place where in, it is present in the form of cicatrized nodules. [15]

PUDENDAL NERVE AND VESSELS

It is the motor and sensory nerve of perineum which runs parallel to the pudendal vessels. The pudendal vessels connect with internal iliac vessels.

The pudendal nerve originates from the sacral plexus (S2,S3,S4).The pudendal artery originates from anterior division of internal iliac artery. Both the nerve and vessels are divided into 3 branches

1.The clitoral branch

2.The perineal branch (largest branch of the three)

3.The inferior hemorrhoidal branch[15]

VAGINA

It is a structure which is Musculo-membranous in nature which extends from vulva to uterus. It is anteriorly and posteriorly interposed between bladder and rectum respectively.

The vagina is anteriorly separated by vesicovaginal septum from bladder and urethra.

It is separated at the level of lower portion of vagina from rectum posteriorly by rectovaginal septum. At the upper fourth of vagina it is separated by pouch of Douglas from the rectum.

The vaginal walls normally form H shape in cross-section by the anterior and posterior walls. The mucosa consists of non-cornified stratified squamous epithelium.

There are no glandular tissues .It is lubricated hence by the transudate which originates from subepithelial capillary plexus and from the cervical secretions.

Occasionally fragments of stratified epithelium get embedded in vaginal connective tissue after childbirth. They can form inclusion cysts in vagina which do not classify under true glands. [15]

PERINEUM

It is the area which is diamond shaped present between the thighs. The pubic symphysis, ischiopubic rami, ischial tuberosities, posterolaterally sacrotuberous ligaments, and posteriorly the coccyx form the anterior boundary.

The perineum is divided into anterior and posterior triangle by an arbitrary line which joins the ischial tuberosities. [15]

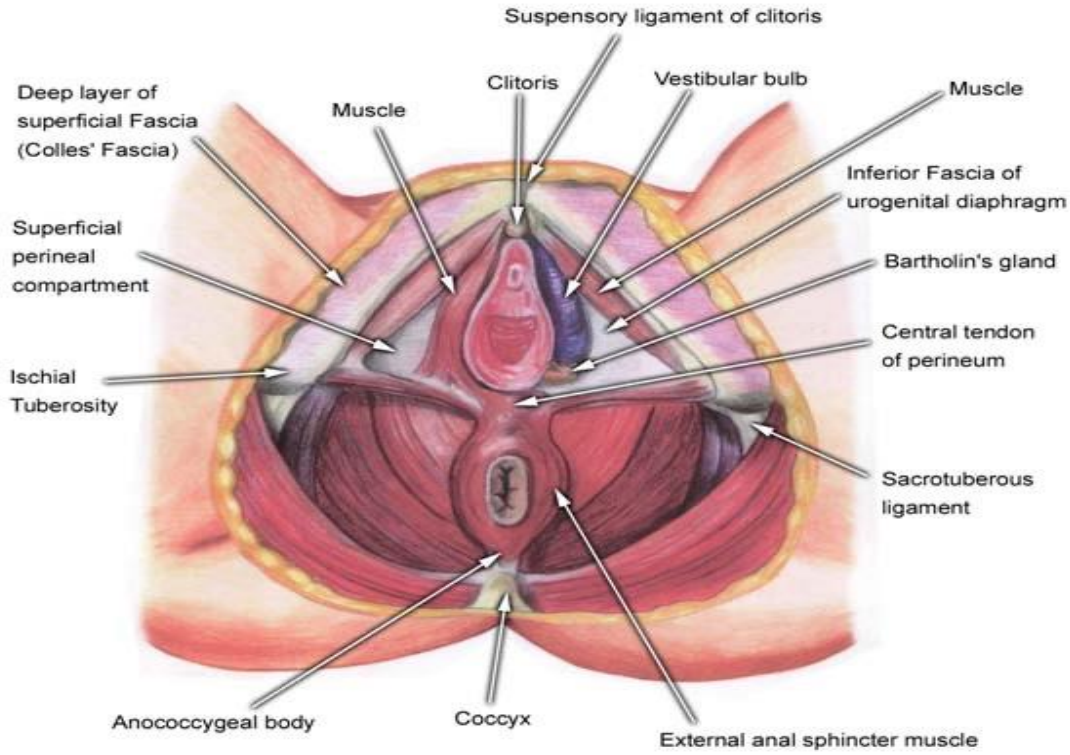


Figure 5 - Anterior and Posterior Triangles

ANTERIOR TRIANGLE (UROGENITAL TRIANGLE)

Pubic rami, ischial tuberosities, and superficial transverse perineal muscles form the superior and lateral borders, respectively. It is further separated into superficial and deep compartments by the perineal membrane.

The perineal membrane consists of dense fibrous tissue ,triangular in shape and covers anterior half of pelvic outlet. Previously it was thought to be of 2 layered

structure. It attaches medically to distal part of urethra and laterally to ischiopubic rami and towards posteriorly to the perineal body. [15]

POSTERIOR TRIANGLE

It consists of ischiorectal fossa, anal canal and sphincter complex ,internal pudendal vessels branches and pudendal nerve. [15]

ISCHIORECTAL FOSSA

It is found on either side of anal canal filled with fat ,wedge shaped and it is majorly constitutes the posterior triangle. It is medially bound by the levator ani and obturator internus muscle anterolaterally. They communicate behind the anal canal posteriorly. This fossa is important clinically as it can get involved with episiotomy infection. [15]

ANAL SPHINCTERS

These are divided into external and internal sphincters which surround the anal canal and provide continence. They are prone for tears during vaginal delivery and are present proximal to vaginal .Majority of the tears remain unidentified during vaginal delivery. [15]

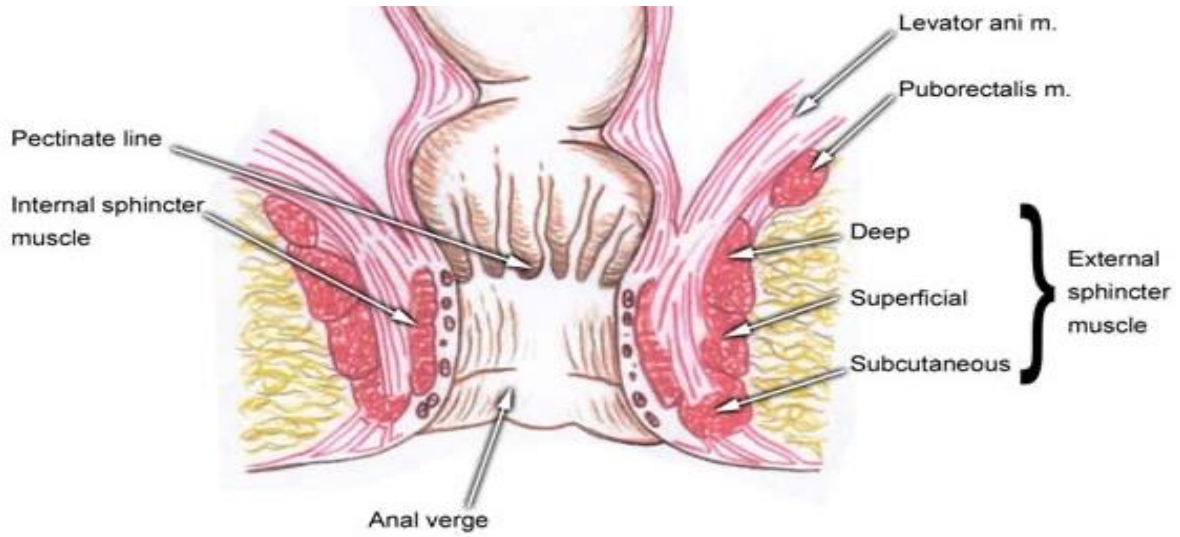


Figure 6 - Anal Sphincter

EXTERNAL ANAL SPHINCTER (EAS)

This consists of straited muscle fibres in the form of rings which attaches anteriorly to perineal body and posteriorly to coccyx. At resting state they maintain a constant state of contraction leading to increased tone and strength and relax during defecation. It is further classified into superficial, deep and subcutaneous fat.

Around anal canal an encircling ring is formed by the subcutaneous portion attachment of the anal sphincter to the perianal skin. It leads to formation of radially oriented characteristic folds in perianal skin. The deeper fibres encircle rectum and with puborectalis they form a loop under the dorsal surface of anorectum. [15]

INTERNAL ANAL SPINCTER (IAS)

These fibres are responsible for contributing to the resting pressure and prior to defecation relaxation occurs. The sphincter constitutes distal part of inner circular smooth muscle layer of colon and rectum. It is of 3 to 4 cms in length and 1 to 2 cms away from distal margin of external sphincter. In 4th degree perineal tears internal anal sphincter maybe involved. [15]

PERINEAL BODY (CENTRAL TENDON OF THE PERINEUM)

It is present between anus and vagina formed by the median raphe of levator ani strengthened by mass of connective tissue. It is a converging point for muscles such as superficial transverse perini , bulbocavernosus and external anal sphincter. During episiotomy perineal body is incised.

Functions:
1. Anchoring vagina and the anorectum
2. Helps in maintenance of urinary and faecal continence
3. Orgasmic platform is maintained
4. Helps in prevention of urogenital hiatus expansion
5. It is a physical barrier between rectum and the vagina[15]

EPISIOTOMY

DEFINITION:

Episiotomy refers to a surgical planned incision intervention upon on the perineum and posterior vaginal wall as during second stage of giving birth (perineotomy)

HISTORY:

The earliest evidence found in the literature so far documented was first proposed by Sir Fielding Ould in mid 18th century in Textbook of obstetrics , Ould described incision of perineum as a means of saving the child's life during difficult delivery.[15]

Although numerous physicians in Europe tried it in their own ways, it still remined obscure over the next hundred years.

Several modifications were suggested with regards to Oulds methods in the first half of 19th century.

The very first physician who reported performing perineal incision was from Hamburg, Germany namely G.Ph.Michaelis.[16]

Ritgen in 1820 suggested multiple superficial incisions around vaginal orifice for preventing perineum from rupture. He mentioned it in his textbook on Use of Mechanical Aids for Childbirth.

It was only in 1847 that the practise of mediolateral episiotomy that is practised today was first suggested by Prof Dubois in France.[15,16]

Eichelberg and Scanzoni suggested lateral and bilateral episiotomy in 1850 and 1852.

The word 'Episiotomy' was first coined by Carl Braun of Vienna in 1857 which translated to cutting of vulva or pubic area. Although Braun had condemned its usage and deemed it unnecessary.[16]

In USA it was performed for the first time by a Virginian surgeon in 1851.

During a period between 1870's and 1920's Episiotomy was accepted as a last resort operation and was condemned by a large number of obstetricians in USA, England ,Ireland and Scotland. It was advised only as an operation of desperation.

In the early 20th century with the control of sepsis and introduction of various anaesthetic methods Episiotomy was largely accepted into routine practise.

By 1930's majority of literature on Obstetrics advocated episiotomy as a prophylactic measure in events such as:

(a) In preventing damage to pelvic floor and posterior vaginal wall

(b) In safeguarding gross injury to anal canal wall and sphincter ani muscle

(c) In preventing extensive laceration caused by overdistention of vaginal wall

(d) To preserve sphincter integrity during difficult delivery by providing a clean cut wound

(e) To facilitate safe and easy delivery of foetus by enlarging the passageway of the vaginal introitus

Many physicians and obstetricians debated over the alternative techniques regarding median and the mediolateral approach in using Episiotomy rather than its safety of usage primarily.[15]

After World War II , In USA routine episiotomy was increasingly advocated which resulted in 62.5% of vaginal deliveries by 1979.

In UK up-to 21% of vaginal deliveries had episiotomy in 1958 and 91% in 1978.

As the naturalist movement moved on in 1970 routine practise of usage of episiotomy was questioned and slowly obstetricians started establishing restricted usage of episiotomy.

On evaluating 1576 spontaneous deliveries consequently in 2000 by Robinson and his associates came to a conclusion that midwives had lower incidence of

usage of episiotomy (21%) when compared to medical schools (33%). The highest rates were among private practitioners (55%). [17]

The idea of practising Episiotomy routinely in vaginal delivery has been strongly challenged. Recent evidences state that there is no improved neonatal outcome nor there is reduction of perineal trauma of operative delivery as opposed to the previous school of thought of decreasing the risk of perineal injury.[18]

In 2014 Amorim found that non episiotomy and deliveries had episiotomy both had no significant difference with respect to duration of second stage of labour , perineal teras, need for perineal suturing and blood loss during delivery. [19]

Rochner and associates used vaginal cones to study pelvic floor muscle strength and found that women with history of episiotomy had less strength when compared to spontaneous delivery. Other studies showed upon neural testing of perineal muscles that the amount of denervation was related to the birthweight of the baby and the duration of second stage of labour which had no relation with episiotomy. [20]

Multiple studies and trails have found no good data to support the prophylactic use of episiotomy in all vaginal deliveries for prevention of perineal trauma as routine practise. Many experts opinionated that episiotomy is to be used in restrictive manner as it is quite helpful in difficult deliveries like shoulder dystocia.

The American College of Obstetrics and Gynaecologists [21] have concluded that episiotomy is to be used restrictively which is also supported by Royal college of obstetrics and gynaecology in their revised guidelines. [22]

INDICATIONS:

Breech delivery

Shoulder dystocia

Persistent OP positions

Fetal macrosomia

Operative vaginal deliveries

Markedly short perineal length

Other cases in which failure to carry out an episiotomy will end in significant perineal rupture. The definitive rule is that there is no alternative for surgical judgment during delivery and common sense . [23]

TIMING OF EPISIOTOMY

If prematurely performed , causes haemorrhage unnecessarily from the wound site and might intervene considerably during the course between incision and delivery of the baby.

When performed too late , its inadequate in preventing lacerations.

When the head is seen to a diameter of 3 to 4 cm during a contraction, episiotomy is performed. When used along with forceps vaginal delivery, generally obstetricians practice an episiotomy after application of the forceps blades . [24]

TYPES OF EPISIOTOMY

1. Median – The line of incision is originates from the middle of the fourchette and extends posteriorly for about 2.5cms along the midline.
2. Mediolateral – The incision is downwards and outwards starting from the midpoint of the fourchette either to left or right , further directed diagonally ended at about 2.5cms away from anus.
3. Lateral – The incision begins from 1cm away from centre of the fourchette and further extended laterally. Caution to be followed regarding Bartholin's duct injury. It is obsolete now.
4. J shaped – To avoid damage to the anal sphincter, the incision begins in the centre of the fourchette and is conducted posteriorly along the midline for approximately

1.5cm, then downwards and outwards along the 7'0 and 5'o clock positions. The drawbacks include improper apposition of the wound edges and edges tend to be puckered. It is obsolete too now.[25]

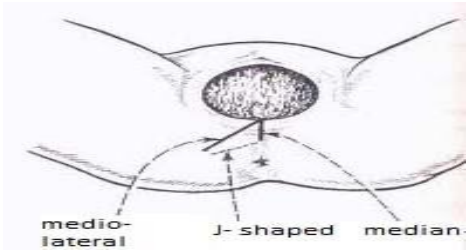


Figure 7 - Types Of Episiotomy

Of these above techniques only median and the mediolateral type of incision are usually used. In the exceptional cases involving third and fourth degree extensions ,midline incision episiotomy is superior. As it is associated with less blood loss, easy to repair , less postop pain and better results with healing anatomically aesthetic well.

TECHNIQUES OF EPISIOTOMY

Preliminaries – The operative area i.e. the perineum is thoroughly painted with antiseptic solution (povidone - iodine) and draped with sterile cloth. [26]

Infiltration - The proposed line of incision is infiltrated with local anaesthetic agent namely 10ml of 1% lignocaine.

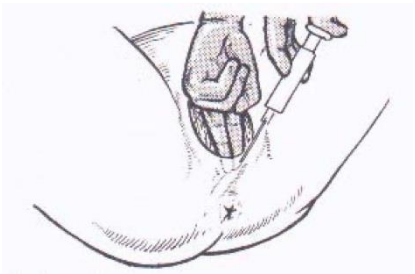


Figure 8 -Infiltration With Local Anaesthesia

INCISION

Before an incision is made , using left hand index and middle fingers , placed in vagina between the presenting art of the fetus and the posterior vaginal wall. Using a curved or straight blunt pointed sharp scissors an incision is made, of which one blade is placed in between the two fingers on the inside and the other

outside towards the skin. During height of uterine contraction the incision is taken after getting an idea of roughly an estimate regarding the extent of incision. (27)

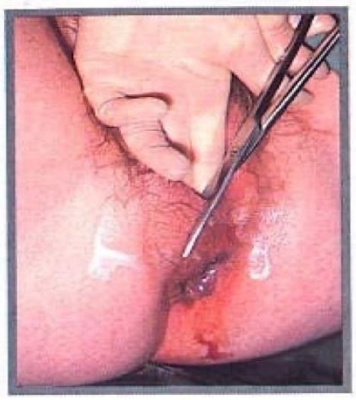


Figure 9 - Performing Mediolateral Episiotomy

Figure 10 - Episiotomy Scissors

STRUCTURES CUT

- Subcutaneous tissue and skin
- Perineal branches of pudendal vessels and nerves
- Fascia covering those muscles
- Superficial and deep transverse perineal muscles , bulbospongiosus and part of levator ani
- Posterior vaginal wall (28)

EPISIOTOMY REPAIR

The three main factors that affect the outcome of the perineal repair are as follows :

1.The kind of the suture material being used

2.The technique of repairing the wound

3. The skill of the obstetrician

PRINCIPLES OF REPAIR:

- Following delivery suture as soon as possible to reduce the possible blood loss and prevent risk of infection
- Good quality lighting is crucial to visualise and recognize the structures involved
- When in doubt seek expert advice for assistance
- In case of complicated restoration of anatomy , perform in operation theatre under anaesthesia
- Insert an indwelling per urethral catheter to prevent urinary retention for 24 hours in trauma involving the urethral and paraurethral area
- To guarantee that the wound is in appropriate anatomical alignment and that the aesthetic result is not compromised.
- A rectal inspection will be performed after the repair is completed to confirm that no suture material has been accidentally inserted through the rectal mucosa. [28]

TIMING OF REPAIR

By and large for the most part general practice is to defer episiotomy repair until placenta has been delivered. The obstetrician can then emphasis on the symptoms of placental separation and birth. Another benefit is that episiotomy healing is not hindered or disrupted by the evident provision of delivering the placenta, especially if manual removal is required. [24]

EPISIOTOMY REPAIR STEPS:

There are numerous ways to repair an episiotomy wound as all the methods work around the principles of restoring anatomy and reducing blood loss and achieving haemostasis.

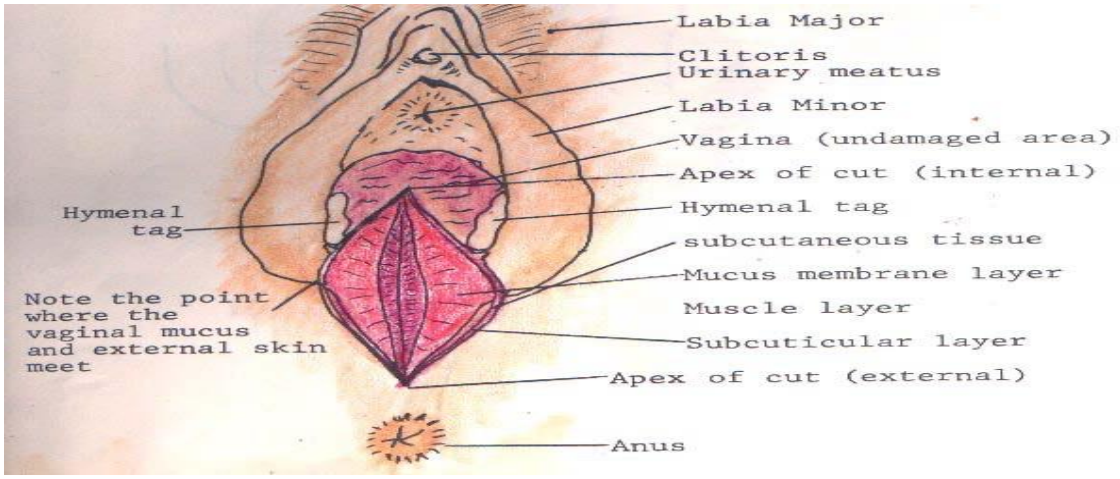


Figure 11- Identification of anatomical landmarks before episiotomy repair

Any perineal trauma is routinely repaired in three layers. A continuous interlocking suture, commencing at the apex of the incision and terminating at the level of the fourchette with a knot, is traditionally used to seal the vaginal epithelium. Although the rationale behind employing an intern locking suture is to minimise shortening of the vaginal epithelium, there is no evidence to support this theory. In addition, interrupted sutures are used to approach the superficial and deep muscles, however some research suggests continuous suturing. Lastly the skin is approximated using vertical mattress or continuous subcutaneous sutures technique.[26]

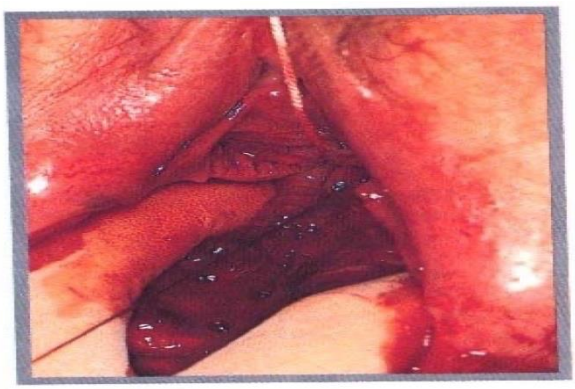


Figure 12- Closure of mucosal layers starting from apex

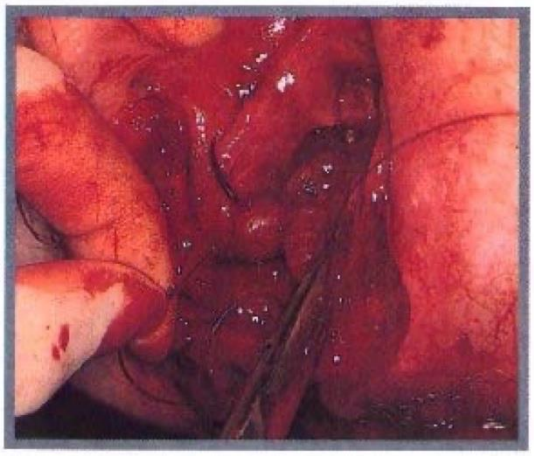


Figure 13 - Closure of muscle layer

CARE OF EPISIOTOMY WOUND

The women is advised to keep the episiotomy wound site dry and to be cleaned using soap and water from vulva towards anus i.e. anterior to posterior. To reduce the oedema and discomfort associated during the first few hours an ice bag is applied.

It is also said that using warm sitz bath after about 24 hours of delivery the moist heat helps in reducing local discomfort. Furthermore oral analgesics are routinely prescribed to curb the pain.

The healing of the episiotomy wound site is closely monitored. By about 3rd week the incision is healed firmly and is nearly asymptomatic. A poorly healed wound or excessive scar tissue can cause pain and is more sensitive in nature. Severe discomfort within the first day or so usually indicates a problem such as hematoma and after the third day infection. In cases where severe perineal , vaginal and rectal pain careful inspection and palpation is warranted.

The patient is taught about various exercises which could improve the tone of the perineal muscles. (29)

Certain studies state that usage of lavender oil essence after episiotomy can be helpful in reducing perineal discomfort and is preferred over routine usage of betadine for wound care. [30]

DEGREES OF PERINEAL TEAR

First degree tear- Only skin injuries are involved.
Second degree tear – Injury to the perineal muscles is involved, but not the anal sphincter.
Third degree tear – Injuries to the perineum and the anal sphincter complex are involved.

3a : Approximately half of the thickness of the external anal sphincter has been torn.
3b: Approximately half of the thickness of the external anal sphincter has been torn.
3c: The internal anal sphincter has been torn.

Fourth degree tear- It involves injuries to the perineum including the whole Anal sphincter complex and also the anal epithelium [31]

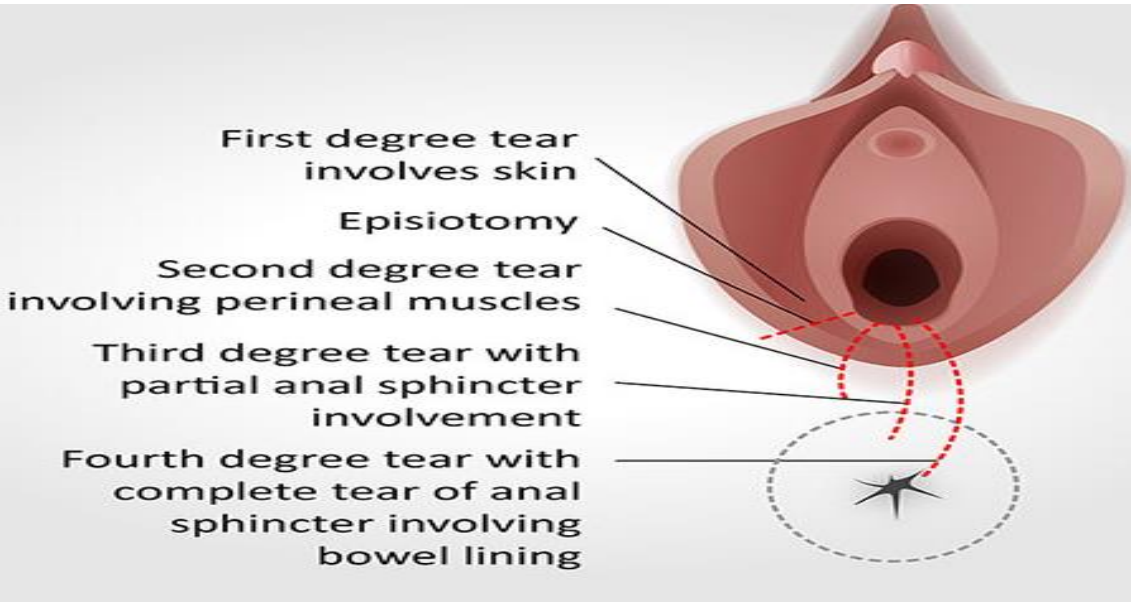


Figure 14 – Perineal tear

COMPLICATIONS OF EPISIOTOMY

The following are the immediate complications [32]:

1) Blood loss and vulval hematoma

2) Extension of incision (3^{rd} degree and 4^{th} degree lacerations)
3) Infection including rare possibility of necrotizing fasciitis
4) Wound dehiscence

The following are the remote complications [32]:

1) Dyspareunia and perineal pain
2) Anovaginal and rectovaginal fistulas
3) Anal incontinence
4) Epidermal inclusion cyst
5) Scar endometriosis

WOUND HEALING

Conventionally the wound healing and its related physiology is segmented in three broad phases which are Inflammation, proliferation and remodelling. [33]

Phase I: Inflammation (Onset of Injury to Days 4–6)

The first phase of healing of wound consists of hypoxic and ischemic environment which is filled with macrophages , neutrophils and platelets. After tissue injury within a few moments to limit any further injury the body itself responds. Potent vasoconstrictors like thromboxane A_2 and prostaglandins $F2\alpha$ are immediately released to after damage to cell membrane. Further blood loss is reduced as the vessels are clamped shut.

Upon damage to the blood vessels , the vascular epithelium gets exposed which is a potent initiator for coagulation cascade. Migration of platelets occur immediately followed by Von Willebrand's factor, Resulting in plugging of defects in the vasculature. The blood clot is formed by platelets , thrombin , fibrin , collagen , fibronectin and complements.

Lastly the monocytes on stimulation form macrophages which is crucial for angiogenesis, Cellular signalling , fibroblast development with neutrophils and

keratinocyte formation that help in consuming bacteria and the necrotic tissue at the wound.

Phase II: Proliferation (Days 4–14)

The next stage in wound healing involves rapid reconstruction of new tissue to replace the old dead tissue . The macrophages secrete nitrous oxide and the vessels that were constricted as result of preventing blood loss slowly dilate to support the influx of new cells. The epithelial cells at the skin edge proliferate fuelled by growth factors to form an eschar and migrate to recreate a protective layer over.

At the same time new capillaries form and expand the previously existing networks. At this stage angiogenesis is critical. The formation of granulation tissue occurs. From the surrounding intact tissue the fibroblasts are recruited and they synthesize to deposit collagen in the tissue. It is further amplified by both paracrine and autocrine cascades , and a mixture of type III collagen , fibronectin and glycosamino glycans are laid out in the wound site.

Phase III: Maturation and Remodelling (Week 1–Year 1)

The last stage of wound healing includes the evolution of the above said matrix into a much refined and ordered structure called collagen complex.

Over maturation and overzealous refining causes keloid formation of the tissue and at the same time inability to mature also causes weak and ineffective scar tissue. To minimize the amount of collagen the myofibroblasts of the wound begin to shrink and cause contraction at the site so as to minimize the amount of collagen deposition requirement. Furthermore contraction leads to formation. Of crosslinks of collagen fibres and increase in strength.

This collagen deposition goes on for about 4 to 6 weeks. The collagen fibrils run parallel to the surface of the wound. When maturation of wound occurs these

fibres get thicker and reorient in such a fashion so as to minimize stress. During the postoperative period this is reflected as an increase in tensile strength of wound.

The wound strength differs as time progresses as follows at first week its only 3% and at 3rd week it is at 30% of its final strength and at 3 months and beyond it is approximately 80% of its final strength. However wound site tissue never gains full strength as comparable to uninjured tissues.

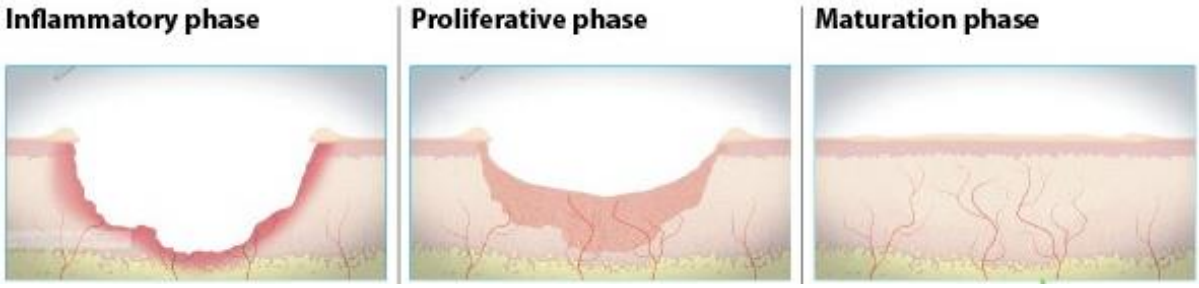


Figure 15 - Stages of wound healing

EFFECT OF FOREIGN BODIES AND EXCESS INFLAMMATION ON WOUND HEALING

Any presence of foreign body at the wound site causes excessive tissue inflammatory response which could cause decrease in lowering the body defence mechanisms towards infection, as well as interference with the stage of proliferation of wound healing and lastly leads to decreased wound strength as a result of excessive scar tissue. Due to the presence of foreign body like suture material inflammatory reactions would persist as long as they prevail within the tissue. The reaction degree depends mostly by and large on the physical characteristics and chemical nature of the suture materials used.(34)

CLASSIFICATION AND CHARACTERISTICS OF SUTURE MATERIAL

As old as 4000 years ago the relationship between wound closure biomaterials was established when linen was used as a suture material. Various materials were used as suture materials including gold, silver, iron, steel, dried gut, tree

bark, animal hair and various other plant fibres and newly a much wider synthetic compositions have been emerging. [35]

Nevertheless with all the exhausting and extensive experienced research works with wound closure materials , no study nor surgeon has yet to identify the perfect suture material with properties such as:

- Minimal reactivity to tissues
- Comfortable handling by surgeon
- Adequate strength for the time needed for tissues to approximate
- Not suitable for growth of microorganisms and can be easily sterilized
- Non – allergic
- Non- carcinogenic [35]

There are various ways to Classify suture materials based on the following:

- Size of suture material
- Tensile strength
- Absorbing capacity
- Filament type
- Pliability and stiffness

Size of suture material:

- Suture materials can be classified based on size and range is defined in terms of two standards i.e. The United States Pharmacopoeia (USP) and the European Pharmacopoeia
- For synthetic suture more commonly listed in terms of USP. The USP is a combination of 2 numerals -a 0 and another number other than 0 (like 2-0 or 2/0). The first number defines the diameter as in the higher the number smaller the diameter.
- In terms of diameter, the USP standard code differs between collagen and synthetic sutures, while the EP standard corresponds to the same minimum diameter regardless of material. The tensile strength of all sutures increases as the size increases, as projected.

TENSILE STRENGTH

- Suture material is used in surgery to alleviate disruptive forces on healing tissues.
- Each suture material has a known tensile stress, which is most easily described for a given suture size as its failure or break load. This is the weight in pounds or kilogrammes required to cause the suture to tear. This measure is typically described in two forms: straight pull and knot pull.
- Both of these measurements are listed as in vitro values and represent only the sutures' immediate out-of-the-package strength. [36]

Suture	Straight-Pull Strength (kilogram force)	Knot - Pull Strength (kilogram force)
Chromic surgical gut	4.11	2.05
Polydioxanone	4.89	3.34
Coated polyglactin910	6.93	3.63
Poliglecaprone 25	7.26	3.67

Figure 16 – Tensile strength of suture materials

ABSORBABLE VERSUS NONABSORBABLE [37]

- Almost all foreign bodies cause a tissue reaction that impedes wound healing. The longer a suture material remains in the body, the more likely it is to act as a nidus for adverse tissue reactions that may delay or disrupt normal wound healing.
- As a result, the ideal suture material can maintain sufficient strength during the healing process and dissolve with minimal an associated inflammatory response.
- Suture materials are graded as absorbable or nonabsorbable in terms of long-term performance depending on whether they end up losing their

entire tensile strength within 2 to 3 months or maintain their entire strength for longer than 2 to 3 months.

- As the sutures dissolve, all absorbable sutures go through two phases of absorption. First, there is a decrease in tensile power, and second, the suture mass decreases.
- Dating back to the 1930s, the sutures of preference were surgical gut (collagen sutures created from sheep or cow intestines) and silk. The introduction of newer synthetic fibres such as nylon, polyester, and polypropylene around the time of World War II broadened the nonabsorbable suture options, while plain and chromic gut remained the only easily absorbed suture options.
- Surgical gut is mainly of two types: simple and chromic. The basic initial extraction is the same for both varieties. The submucosa of sheep intestines or the serosa of cow intestines are cut into longitudinal ribbons and formaldehyde is applied. Numerous ribbons are therefore woven into strands before being dried, beaten down, and brushed to the appropriate suture size The untreated substance that results is known as simple gut. As plain gut is tanned even more in a chromium trioxide bath, it becomes chromic gut. The chromium treatment postpones the absorption of the chromic intestine, extending its tensile properties much longer than plain gut.
- While plain & chromic gut suture materials indeed provided the medical community excellently for several years and millions of operations, the mere existence of the material's manufacturing and composition renders this suture material a little under ideal even now.
- Firstly, the grinding and polishing of the warped multifilament suture results in an unpredictability of weak points and fibril damages, which leads to the sutures' typical wear and tear with use. Furthermore, due to a certain processing conditions, measurable intensity is difficult to achieve.

- Quite significantly, since surgical gut is a foreign protein, these are damaged and consumed primarily by proteolytic enzymes from phagocytes and some other cells, resulting in a rather predictable absorption rate and an even stronger tissue reaction than recent, synthetic surgical sutures.
- With the advent of synthetic absorbable sutures in the early 1970s, a new era of suture material began. These substances vastly outnumber natural products in terms of strength and degradability within biologic environments since they can be manufactured with precisely regulated manufacturing process with consistent chemical composition. Furthermore, because those materials are nonproteins, they typically induce less violent tissue reactions, which promotes faster healing of wounds and power.
- Polyglycolic acid-polyglycolide and glycolide-l-lactide random copolymer or polyglactin 910 were the very first commercially available absorbable sutures. Both are generated by melt spinning chips. To boost dimensional stability and prevent contraction, the fibres are extended to several hundred times of their initial size and heat-set. Almost all of these products are just too stiff in bigger sizes to be useful as sutures due to the high density of ester functional groups. As a result, individual smaller fibres are braided into final multifilament strands of varying sizes, resulting in a product with consistent absorption and endurance profiles as well as suitable handling properties. Following extra treatment, the sutures are sterilised with ethylene oxide and sealed in an inert gas to prevent the suture from just being altered by ambient moisture.
- A purple colourant is applied to certain Polyglactin 910 to improve its appearance against wound tissues.
- Since these synthetic fibres are hydrolysed in vivo, they cause less inflammation than their natural protein analogues.

- Amid these advancements, a synthetic monofilament suture that was absorbable was still needed. This vacuum was filled inside the 1980s with the advent of newer polymers. Poly-p-dioxanone or polydioxanone and poly(glycolide-trimethylene carbonate) copolymer or polyglyconate are indeed absorbable monofilament sutures with the predictable strength and absorption conditions of their earlier polymer cousin albeit with more suitable versatility that enables for a monofilament structure.
- When suture technology progressed, surgeons tried to improve synthetic absorbable suture materials in order to expand their applications. To address the evident need for a polyglycolic acid-based suture with a shorter absorption profile, a fast-absorbing variant of conventional polyglactin 910 suture material pre-treated with ionising rays to expedite hydrolysis was developed in 2003. This newest suture material has a median absorption of 42 days as a result of its pre-treatment.

ABSORPTION RATES OF ABSORBABLE SUTURES – Figure 17

Suture	Time to 50% Loss of Tensile Strength (days)	Time to Complete Loss of Tensile Strength (days)	Time to Complete Mass Absorption (days)
Plain surgical gut	3-5	14-21	70
Fast-absorbing coated polyglactin 910	5	14	42
Poliglecaprone (MonocrylTM)	7	21	90-120
Chromic surgical gut	7-10	14-21	90-120

MULTIFILAMENT VERSUS MONOFILAMENT

- The use of more than one fibre in the production of a single finished strand of suture is referred to as multifilament.
- There are no benefits of using a multifilament suture over a monofilament suture in terms of wound healing. Multifilament sutures cause more microtrauma than monofilament sutures as they move through tissues. Multifilament sutures often elicit a stronger inflammatory response.
- Nevertheless, existing multifilament sutures usually have better handling properties and material stability than comparable solid monofilament materials.

STIFFNESS AND FLEXIBILITY

- Suture stiffness and flexibility, while often ignored as main characteristics, can be just as important as strength and absorption since these traits decide how a material handles or feels. The stiffness of the suture decides whether it is soft or heavy, whether it has memory or recoil, and how easily knots can be tied.
- Moreover, stiffness is synonymous with the inclusion or exclusion of mechanical irritation of the suture as a result of its ability or inability to conform to the layout of the surrounding tissues.
- In general, monofilament suture materials to increase bending stiffness than multifilament, braided suture materials at any given scale. In this regard, natural multifilament twisted sutures, such as chromic catgut, behave more like monofilaments than braided multifilament sutures.

Selection Of Suture Material For Perineal Repair [38]

Before selecting a suture material, surgeons must consider the tissue and physiologic milieu into which the suture will be inserted, in addition to considering the physical properties and characteristics of the various available suture materials.

In general, the suture-holding strength of most soft tissues is determined by the amount of fibrous tissue present. Sutures are therefore well retained by skin and fascia, but not by brain and spinal cord tissue.

Additionally, healthy tissues appear to sustain sutures better than inflamed, edematous tissues.

Wound healing is a mechanism that occurs in any given tissue. In this interim time, wound closure biomaterials are used to provide supplemental support for the tissues.

Nevertheless, since all materials cause some degree of unwanted inflammatory reaction, striking a balance between strength and inflammation is critical when selecting a suture for a specific tissue closure.

Suturing products for the repair of obstetrical perineal lacerations have received a fair amount of attention. Obstetrical lacerations heal well regardless of materials or technique due to the increased vascularity in the peripartum phase. In the perineum, an absorbable suture material is the best choice.

While collagen sutures, such as chromic gut, have performed admirably for decades, as previously stated, newer synthetic absorbable suture materials elicit less inflammatory tissue response than chromic gut, and thus it has been hypothesised that the use of synthetic materials in perineal repairs may result in less postpartum pain.

However, since synthetic materials degrade at a slower pace, some have expressed concern that residual synthetic suture material may cause problems for patients weeks after their lacerations had healed, as well as act as a nidus for infection. Besides that, some authors have raised questions that more rigid monofilament sutures can "poke through" their skin's edges may irritate patients.

These theories were tested in a number of randomised trials that Kettle and Johanson reviewed for the Cochrane Database in 2001. Their research, which included experiments using a variety of synthetic suture products, suggested that using Dexon and Vicryl for perineal restoration after childbirth is correlated with less short-term pain but higher rates of suture removal as opposed to chromic catgut.

After that study, fast-absorbing polyglactin 910 has been developed, and two trials have shown reduced postpartum pain and faster commencement of sexual activity without a difference in wound degradation or remaining suture material as fast-absorbing polyglactin 910 was compared to chromic gut. Fast-absorbing polyglactin 910 appears to be the rational option nowadays for repairing of obstetrical perineal lacerations based on these trials, its handling characteristics, and the theoretical advantages of this newer material.

AIMS OF THE STUDY

To compare and evaluate the properties and characteristics of fast- absorbing polyglactin 910 versus chromic catgut suture material for episiotomy wound repair

OBJECTIVES

To compare the fast-absorbing polyglactin 910 versus chromic catgut sutures in the repairing of episiotomy wound

1. Postpartum perineal pain and need for analgesia
2. Nature of wound healing

METHODOLOGY

The study will be conducted at B.L.D.E (DEEMED TO BE UNIVERSITY) SHRI B.M. PATIL MEDICAL COLLEGE HOSPITAL AND RESEARCH CENTRE. This is a randomised, controlled trial with two groups of patients chosen at random according to the inclusion criteria.

SOURCE OF DATA

This is a Randomized comparative study.

All the patients who fulfil inclusion criteria will be studied. Consents will be taken once the patient is admitted . After performing mediolateral episiotomy Block Randomisation with Size 1 will be used to allocate the women into group I or group II.

Polygalactin 910 (rapid absorbing) 2-0 or chromic catgut 1-0 are used to stitch the episiotomy wound. A conventional three-step procedure is used to repair episiotomies. A continuous interlocking suture is used to suture the vaginal mucosa, while an intermittent suture is used to repair the perineal muscle. In Group 1, the skin is closed with a mattress suture, whereas in Group 2, the skin is closed with subcuticular sutures.

In terms of age, parity, presentation, and gestation duration, both groups are compared. Patients in both groups are given a single dose of antibiotic

(ceftriaxone 1 gm) before to the operation, and analgesics such as diclofenac sodium or ibuprofen are administered after suturing.

Outcomes:
The following are the primary outcome metrics that were recorded:

After 24 to 48 hours postpartum : Perineal pain perception along with any discomfort , swelling at perineum , tightness at site of wound
Days 10 to 14 days postpartum : Perineal pain, wound discharge, disruption or dehiscence of any extent
Six weeks after postpartum: Wound healing complete/incomplete ,removal of an residual unabsorbed suture

The pain is assessed using a ruler and a visual analogue scale (VAS); the score is calculated by measuring the distance (mm) as none, mild, moderate and severe; the cut off points on VAS are as follows: no pain (0-4 mm), mild pain (5-44 mm), moderate pain (45-74 mm), and severe pain (75-100 mm).
Fever, throbbing pain in the perineum, edema, and drainage from the area are all clinical indicators of a wound infection.

INCLUSION CRITERIA -

- All women with episiotomy wound
- Any 2nd degree perineal lacerations

EXCLUSION CRITERIA -

- Episiotomy that are extended due to instrumental deliveries
- Anaemia
- Diabetes
- PROM or PPROM for more than 24 hours

Investigation done for all the patients -

- Complete blood count
- Platelet count
- Urine routine
- Random blood sugar

REVIEW OF LITERATURE

- After being described by Ould in as early as 1741, episiotomy was routinely given in a mediolateral fashion in all nulliparous births in order to protect the fetal head from trauma and also the pelvic floor from extreme lacerations.(45)
- In the Wear Berkshire perineal management trial, one thousand women were allocated to one of the two groups-one with restrictive episiotomy and another with liberal episiotomy.
- The restrictive group experienced more perineal tears and labial tears. There was no difference between the two groups in terms of perinatal mortality,maternal pain or urinary symptoms at 10 days and three months postpartum. Women who had perineal tears in the restrictive group also resumed intercourse 1 month post delivery. Hence this study says there is little support for liberal episiotomy, since there was not much significant difference. (46)
- A Turkish trial was conducted in 2015-16 studying the long term and short term consequences of episiotomy. The current meta analysis and studies assessed showed that liberal use of episiotomy did not decrease the incidence of pain,dyspareunia,sexual dysfunction,and pelvic floor damage. Hence this study concludes that episiotomy can be restrictive rather than routine use.(45)
- The largest study comparing long term effects was conducted in 1996 in France, in two hospitals with a diverse policy for

episiotomy. After 4 years the participants were mailed a questionnaire regarding variables like anal incontinence,urinary incontinence, dyspareunia,and pelvic pain. It showed that anal incontinence was less prevalent in the restrictive group. Logistic regression confirmed that routine episiotomy was associated with two times more risk for anal incontinence than the restrictive group.[45]

- In a study titled the effects of episiotomy on pelvic floor function after vaginal delivery, about 500 women were randomly allocated for episiotomy versus spontaneous delivery associated with first and second degree perineal lacerations. No difference was observed in terms of perineal pain, anal or urinary incontinence, but there was higher incidence of perineal pain and dyspareunia in the episiotomy group. [47]
- In a study conducted in the rural population of India comparing the continuous and intermittent suturing , in about 200 term women having an episiotomy, the results showed lesser pain, less no. of suture materials and lesser time for suturing in the continuous technique and hence which is also cost and time effective.[48]
- Dash et al conducted a study in Behrampur medical college , Odisha in 2013, comparing two techniques of suturing- continuous and intermittent and according to their study, the continuous suturing technique was better with lesser time required,lesser suture material required, and also lesser pain.[49]
- Kettle et al also conducted a similar study and found out lesser pain in the continuous suturing group. Almeida and Reico also compared the two techniques and found lesser pain in the continuous group.[9]

- They did a meta analysis of about 16 trials done in this aspect and found out that the continuous subcuticular suturing technique was associated with lesser pain on 10th postnatal day, lesser need for suture removal compared to the intermittent suturing, but no difference was observed in terms of dyspareunia and resuturing of the wound.
- Mota R and Costa F differed in that they compared subcuticular suturing with adhesive glue for skin sutures and found lesser pain when glue was used instead of sutures.[50]
- This study was done over a 100 women to compare mainly pain long term in the two groups. Other variables measured were secondary outcomes like duration of repair, technical difficulties during repair, wound complications observed postpartum, and regaining of sexual function in 30 days postpartum. There was no difference in the two groups in terms of pain during the procedure, technical difficulties, wound outcome. The glue repair took lesser time about four minutes lesser and had lesser pain postpartum.
- The Cochrane meta analysis rewiew also says that there is less pain and lessertime taken in the continuous technique.[8]
- In a study comparing overlap repair vs end to end repair, the overlap repair was better in that there was lesser fecal incontinence and dyspareunia , after 1 year follow up.[51]
- In another study conducted in 2014 in Cuttock,Odisha- the continuous method is better in terms of dyspareunia,lesser time taken for suturing, and he added a point that for a new trainee to suture the episiotomy wound, the continuous method was easier and required a shorter learning curve.(52)
- In KIMS, Karad, a study was done among 100 women divided into two groups for the two techniques of suturing. Episiotomy was

given in view of shortening duration of 2nd stage of labour, preventing fetal head injuries, preventing perineal tears and hence incontinence. The study reported lesser incidence of pain in the continuous suturing than the intermittent technique.[53]

- Moving on to studies comparing suture materials,newer monofilament synthetic suture materials have replaced the traditionally used catgut for episiotomy suturing.In a study conducted in Dhavangare, use of vicryl resulted in lesser pain and better wound healing than catgut.[40]
- The Cochrane database comparing various trials comparing catgut and other synthetic suture materials , like standard synthetic,rapidly absorbing synthetic sutures and glycerol impregnated sutures, concluded that catgut causes more short term perineal pain than synthetic suture materials.[9]
- The Ipswich Childbirth study, which was a randomized comparison between Polyglactin and catgut, conducted in 1992-1994, concluded that the polyglactin group required lesser analgesics and there was less pain at 10 days postpartum, compared to the catgut group. The only disadvantage was that out of 200 people sutured using polyglactin,one needed resuturing.[9]
- In a study conducted in the institute of social obstetrics and government Kasturba Gandhi hospital in Chennai in 2012, they concluded that there was lesser pain postpartum and lesser wound dehiscence in the polyglactin group compared to the catgut group,but there was no significant difference in dyspareunia between both.[54]
- In 2015, Abdullah, Iqbal , Sohail conducted a study at the Services Hospital Lahore,comparing the incidence of pain after episiotomy in Primigravidas. They conducted this study on 100 women. The basis

of their study was that vicryl rapide or polyglactin had lesser tissue reaction was absorbed by hydrolysis,in comparison to catgut which was manufactured using collagen, causes tissue reaction and is degraded by proteolytic reaction and phagocytosis. [44] The results of their study was that use of vicryl rapide was better for episiotomy.

- Al Khafaji compared two different methods of episiotomy and published a study in 2005-06. It was conducted on 300 women where, 100 women were sutured using vicryl and 200 with chromic catgut and examined at 5 and 10 days postpartum for pain and wound healing. In majority of women the indication for episiotomy was nulliparity with a tight perineum . pain on the 5th day was lesser in the vicryl group. This group had a different result in that wound infection was lesser with vicryl but with mattress technique suturing. [44]
- An article in the British Journal of midwifery explains about the material we have used in my study-the vicryl rapide. Materials such as Dexon and Vicryl cause minimal tissue reaction, but takes about 2-3 months to degrade. But the newer Vicryl Rapide or Polyglactin has smaller components of vicryl and degrades more quickly- after 5 days the tensile strength is reduced by 50 % and after 14 days all tensile strength and tension is lost.[55]
- In a study conducted in MVJ medical college Bangalore,comparison between continuous and intermittent suturing showed that the continuous technique was associated with lesser time taken,lesser material used,lesser pain postpartum, and lesser need for analgesics.[56]
- In a randomized controlled trial conducted by Kettle , Hill, Jones, Reynolds- comparing the two techniques of suturing and also the two materials used, they stated that the continuous technique of

suturing causes lesser pain on the 10th postpartum day compared to intermittent technique and the polyglactin material obviates the need for suture removal 3 months postpartum than the catgut material.[8]

- Kurien Joseph et al conducted a study in 2008, at the railway hospital among 150 patients comparing the three suture materials-chromic catgut, polyglactin standard and polyglactin rapide. The patients were divided in three groups a prospective randomized trial done. The study showed distinctive advantage of polyglactin or vicryl rapide over the standard vicryl and catgut materials in terms of postpartum pain, need for analgesics, wound healing, need for resuturing.[41]

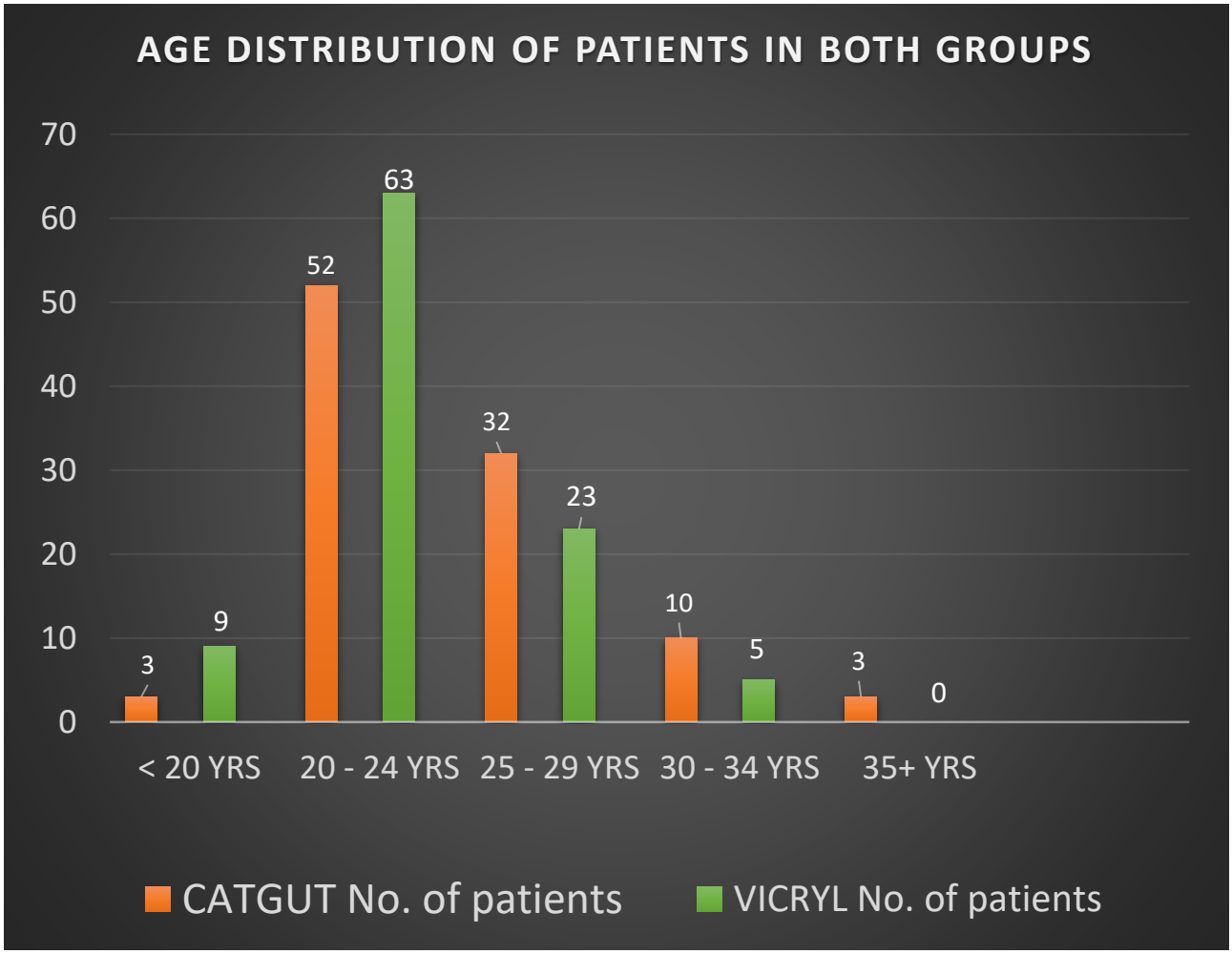
RESULTS

For episiotomy wound healing, 200 women were randomly assigned to one of two groups: 100 received chromic catgut No.1-0 and the other 100 received Fast absorbing polyglactin 910 No.2-0.

There was no loss of follow-up for any of the participants after delivery. The results are as follows.

Table 1: Age distribution of study population

Age (Years)	CATGUT		VICRYL	
	No. of patients	Percentage	No. of patients	Percentage
< 20	3	3.0	9	9.0
20 - 24	52	52.0	63	63.0
25 - 29	32	32.0	23	23.0
30 - 34	10	10.0	5	5.0
35+	3	3.0	0	0
Total	100	100.0	100	100.0



As depicted here , majority of the patients belonged to 20 -24 years of age in both the groups 52 % in Chromic Catgut and 63% in Fast absorbing polyglactin 910. But it was not statistically significant.

TABLE: 2 BMI DISTRIBUTION OF STUDY POPULATION

BMI (Kg/m2)	CATGUT		VICRYL		
	NO OF PATIENTS	PERCENTAGE	NO OF PATIENTS	PERCENTAGE	
<18	23	23	24	24	CHI SQUARE TEST
18-25	72	72	67	67	X2 = 1.344
26+	5	5	9	9	P = 0.5107
TOTAL	100	100	100	100	

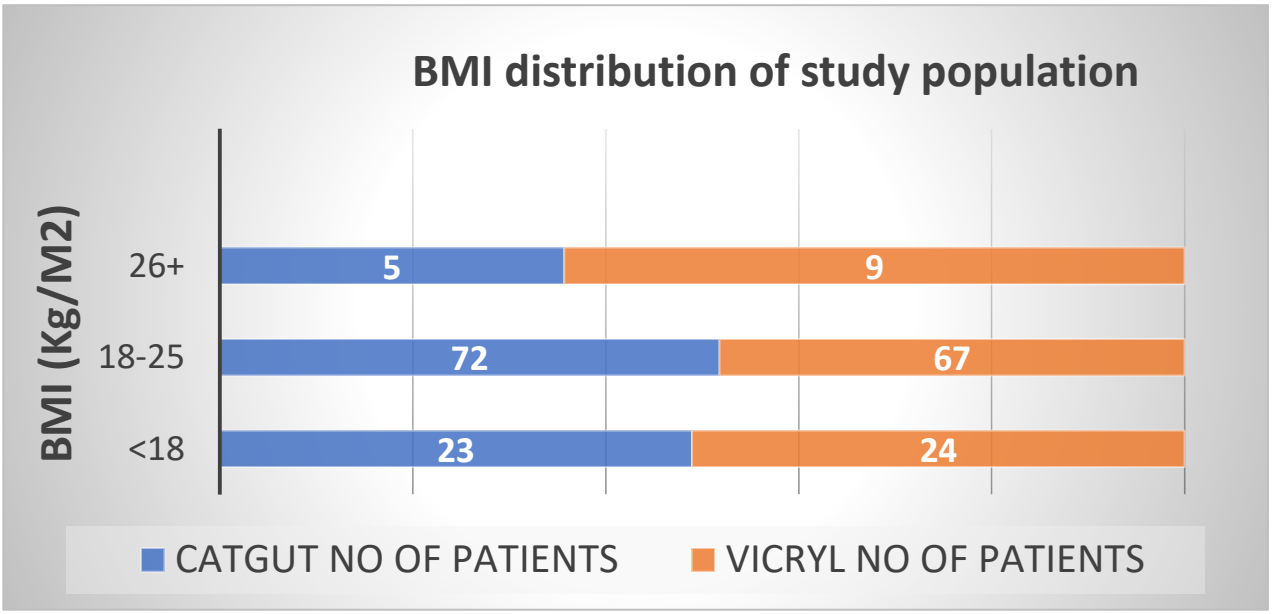
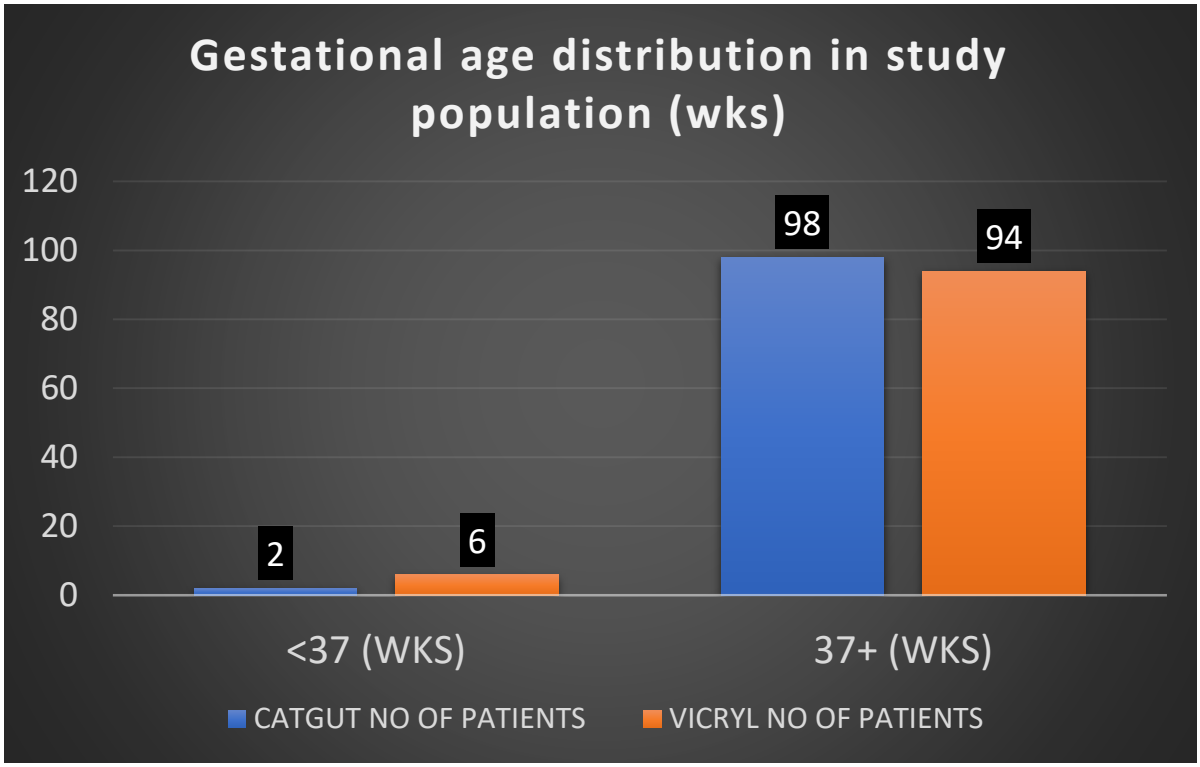


TABLE 3 : GESTATIONAL AGE DISTRIBUTION IN STUDY POPULATION

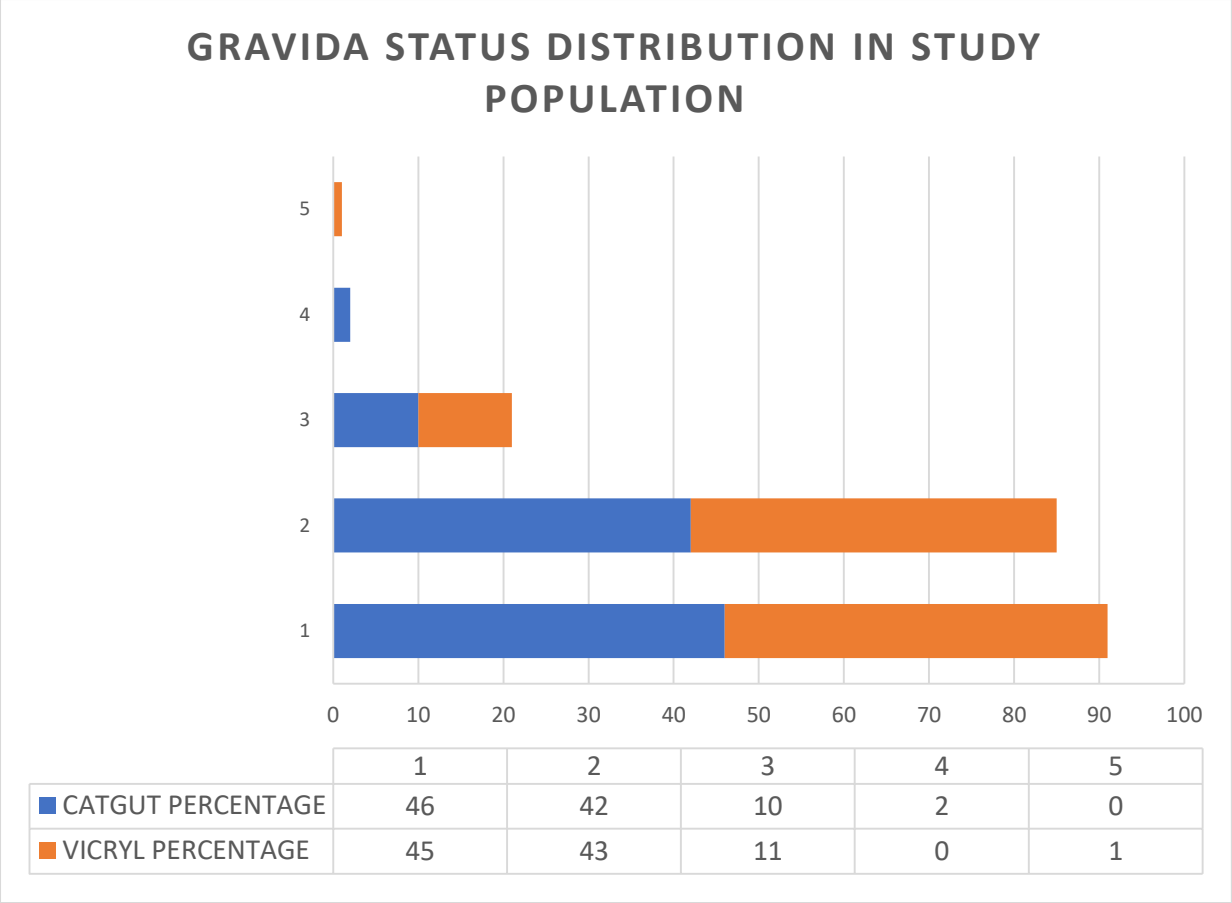
POG	CATGUT		VICRYL		CHI SQUARE TEST
	NO OF PATIENTS	PERCENTAGE	NO OF PATIENTS	PERCENTAGE	
<37	2	2	6	6	X2 = 2.083
37+	98	98	94	94	P = 0.1483
TOTAL	100	100	100	100	



As seen here the gestational age distribution the poupulation in both groups reamied to be term in majority namely 98% in catgut and 94% in vicryl group. The difference was not significant statistically (p value = 0.1483)

TABLE : 4 DISTRIBUTION OF GRAVIDITY STATUS IN STUDY POPULATION

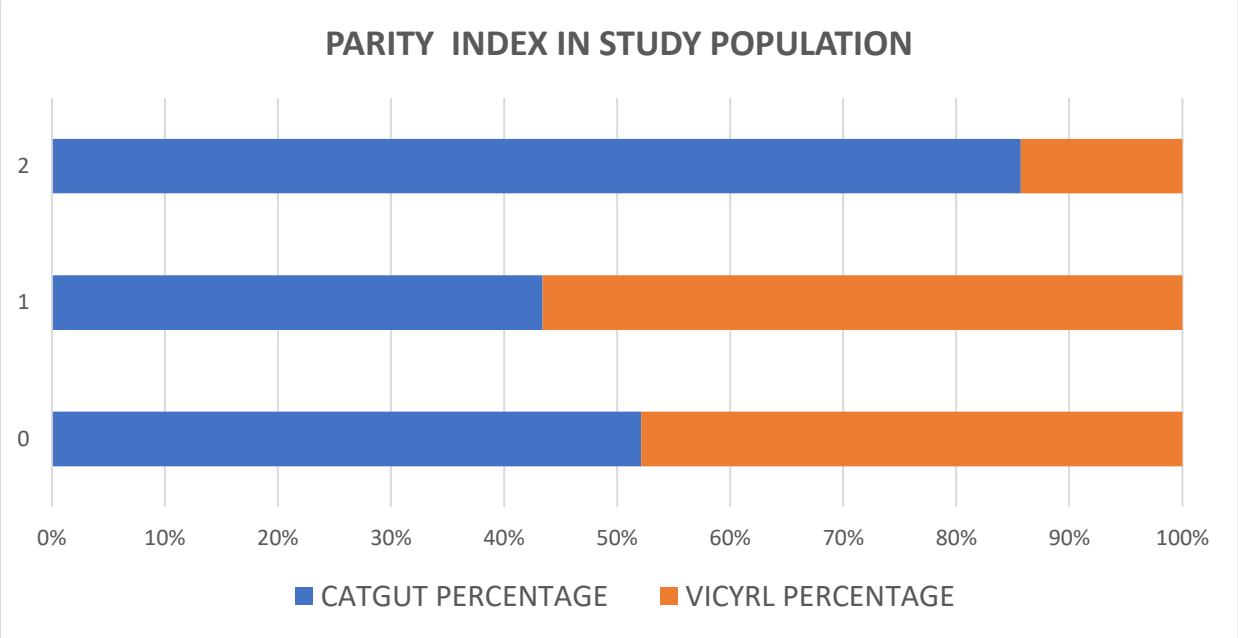
GRAVIDA	CATGUT	VICRYL	
	PERCENTAGE	PERCENTAGE	CHI SQUARE TEST
1	46	45	X2 = 3.070
2	42	43	P = 0.5461
3	10	11	
4	2	0	
5	0	1	



When compared with regards to the gravidity status of both the groups , majority of them belonged to primigravidae ; 46 % in group 1 and 45 % in group 2. The difference was not staistically significant in both the groups.

Table : 5 DISTRIBUTION OF PARITY STATUS IN STUDY POPULATION

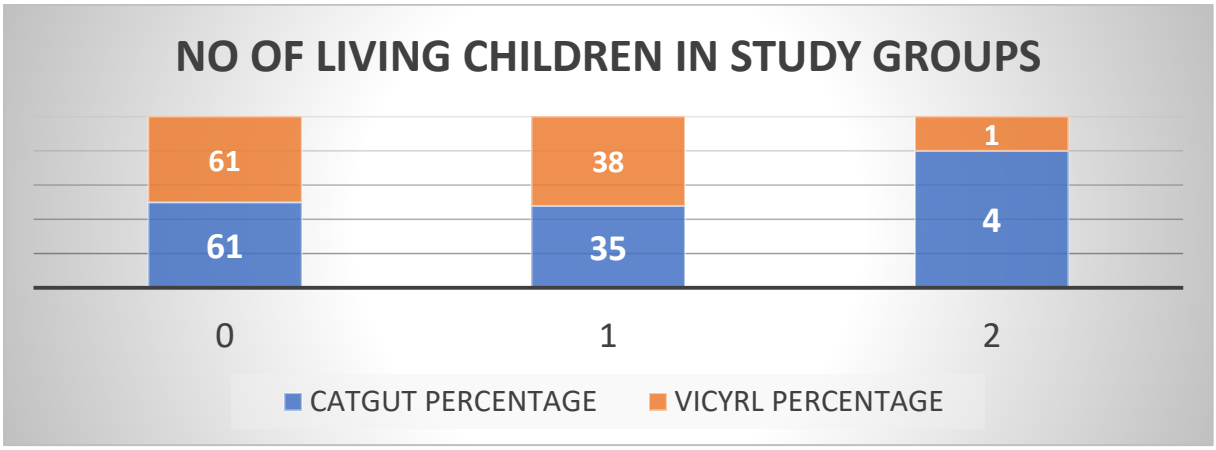
PARITY	CATGUT	VICYRL	
	PERCENTAGE	PERCENTAGE	CHI SQUARE TEST
0	61	56	X2 = 5.101
1	33	43	P = 0.0780
2	6	1	



When compared with regards to the parity status of both the groups , majority of them belonged to primigravidae ; 61 % in group 1 and 56 % in group 2. The difference was not staistically significant in both the groups.

Table : 6 DISTRIBUTION OF LIVING ISSUES IN STUDY POPULATION

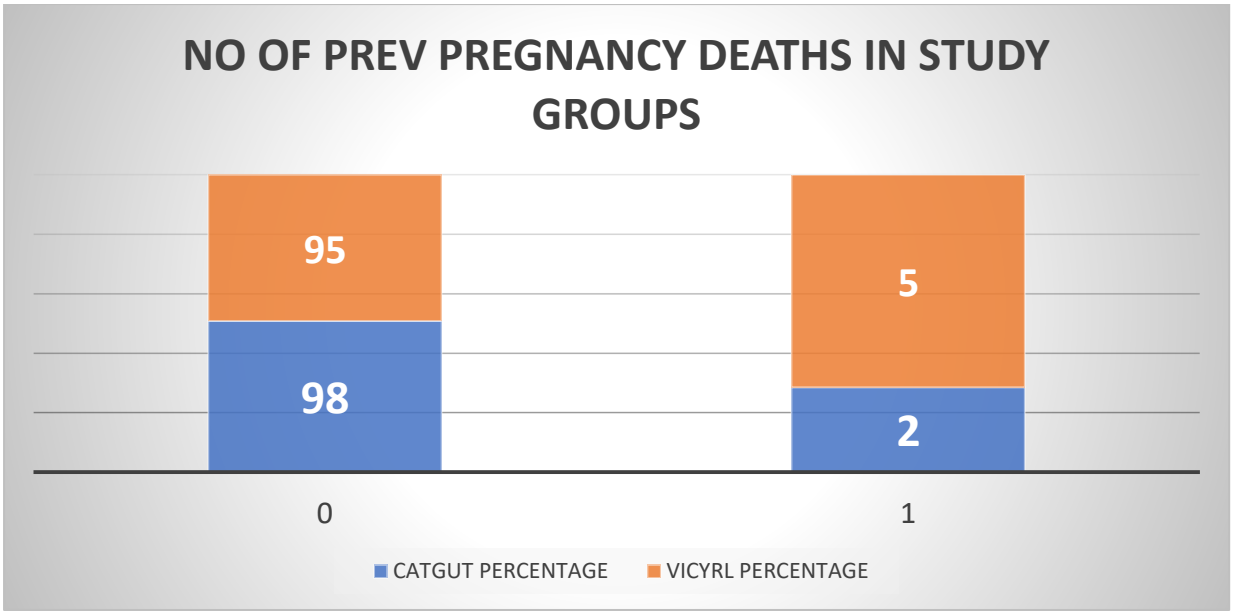
LIVING	CATGUT	VICYRL	
	PERCENTAGE	PERCENTAGE	CHI SQUARE TEST
0	61	61	X2 = 1.923
1	35	38	P = 0.3823
2	4	1	



The number of living children in both the groups were surprisingly amounting to the same 61% of having a single child in previous pregnancy although this was not statistically significant.

Table : 7 DISTRIBUTION OF DEATHS IN PREVIOUS PREGNANCIES IN STUDY POPULATION

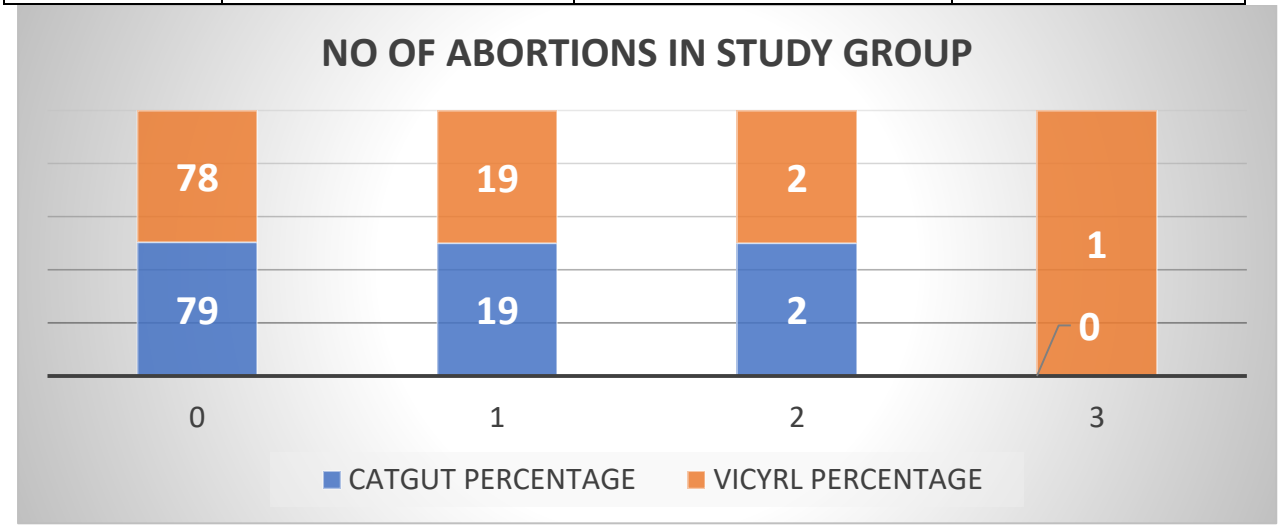
DEAD	CATGUT	VICYRL	
	PERCENTAGE	PERCENTAGE	CHI SQUARE TEST
0	98	95	X2 = 1.332
1	2	5	P = 0.2484



Among both the study groups majority of them no deaths in the previous pregnancies . An insignificant amount of the study population i.e. 5% in group 1 and 2 % in group 2 had fetal deaths in the past pregnancies. This was not statistically significant upon comparison.

TABLE : 8 DISTRIBUTION OF ABORTIONS IN PREVIOUS PREGNANCIES IN STUDY POPULATION

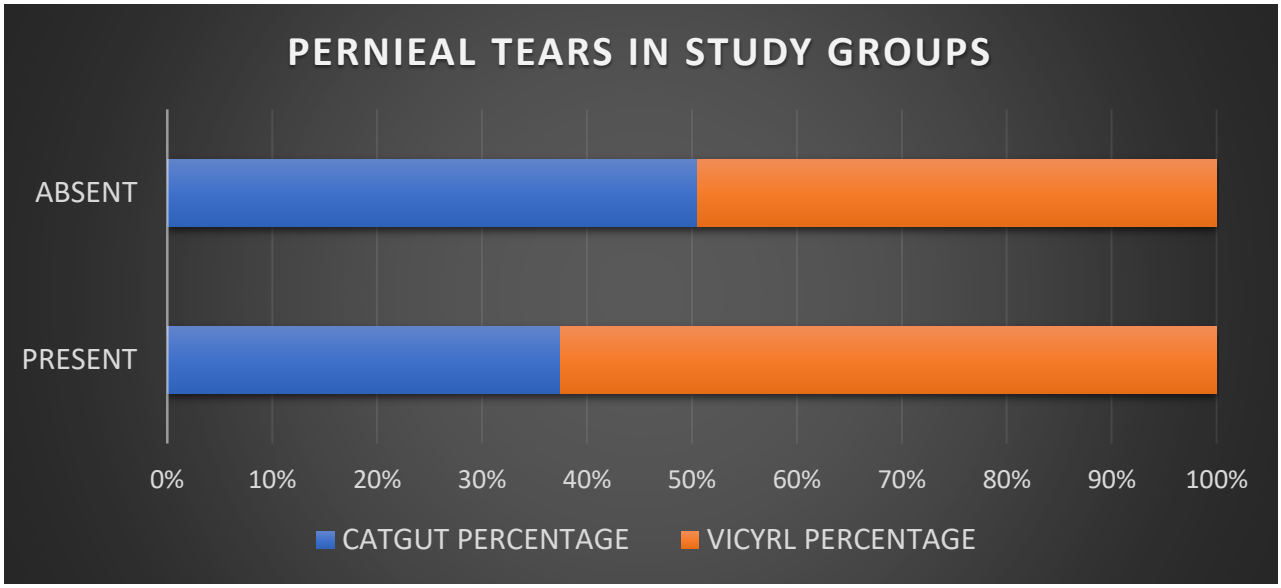
ABORTION	CATGUT	VICYRL	
	PERCENTAGE	PERCENTAGE	CHI SQUARE TEST
0	79	78	X2 = 1.006
1	19	19	P = 0.7997
2	2	2	
3	0	1	



Among both the study groups majority of them no abortions in the previous pregnancies . A minor amount of the study population i.e. 22% in group 1 and 21 % in group 2 had fetal deaths in the past pregnancies. This was not statistically significant upon comparison.

TABLE : 9 PERINEAL TEARS ENCOUNTERED IN STUDY POPULATION

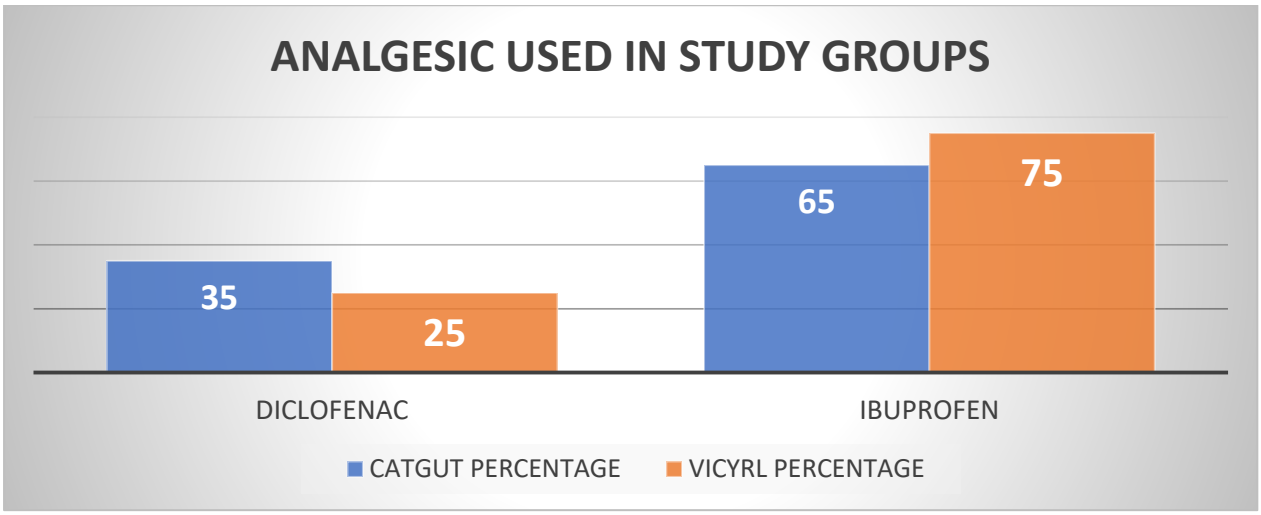
PERNIEAL TEARS	CATGUT	VICYRL	
	PERCENTAGE	PERCENTAGE	CHI SQUARE TEST
PRESENT	3	5	X2 = 0.5282
ABSENT	97	95	P = 0.4705



By and large of the population when compared in both the groups had no perineal tears as a very insignificant amount i.e. 3 % in Catgut group and 5% in Vicryl group were encountered with perineal tears during delivery. This was not statistically significant upon evaluation.

TABLE : 10 ANALGESICS USED IN STUDY POPULATION

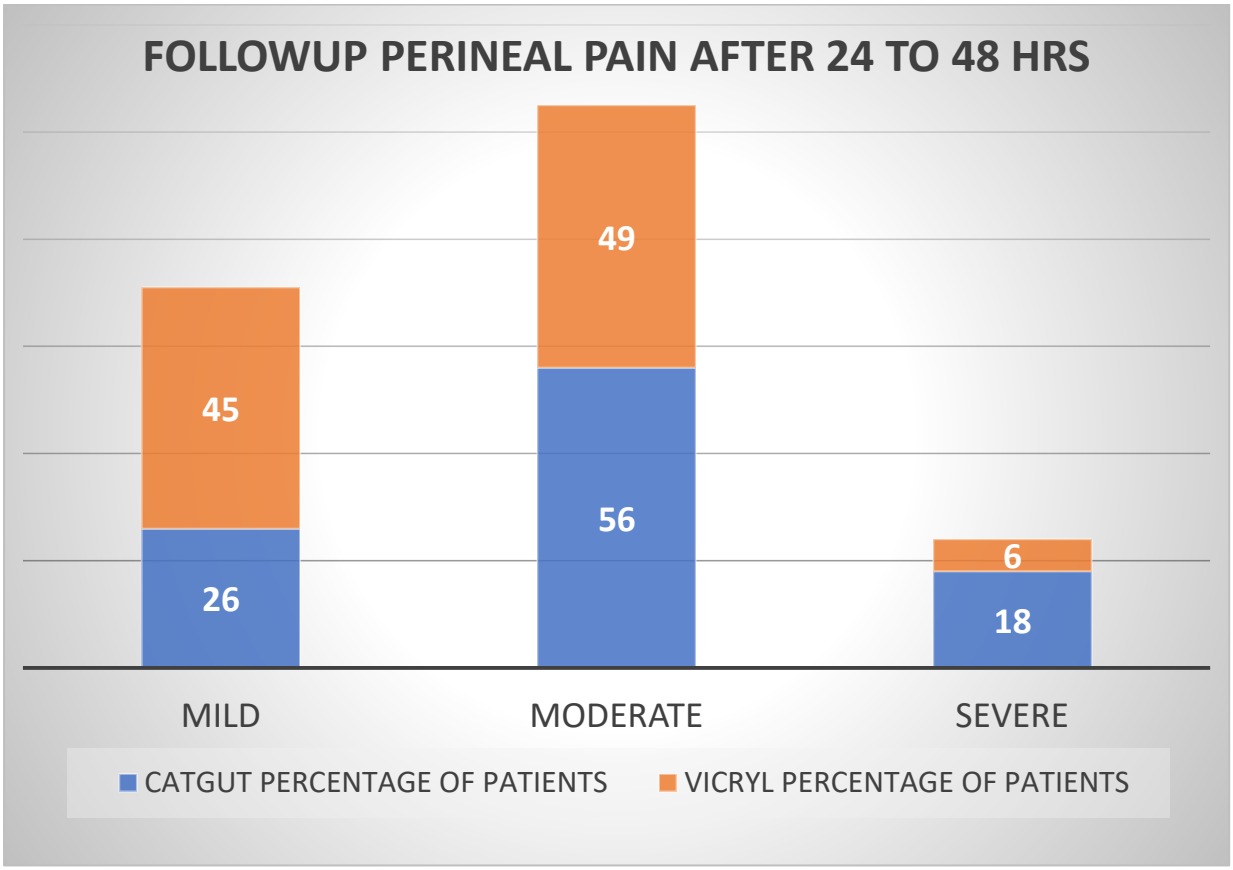
ANALGESIC	CATGUT	VICYRL	
	PERCENTAGE	PERCENTAGE	CHI SQUARE TEST
DICLOFENAC	35	25	X2 = 2.381
IBUPROFEN	65	75	P = 0.1228



After childbirth two different anaglesics were used oral preparations namely Diclofenac sodium and Ibuprofen and were compared with regards to their effectiveness. Although majority of them received Ibuprofen namely 65% in Catgut group and 75 % in Vicryl group but this was not significant statistically.

TABLE : 11 PERINEAL PAIN PERCEPTION FOLLOWING 24 TO 48HRS POSTPARTUM

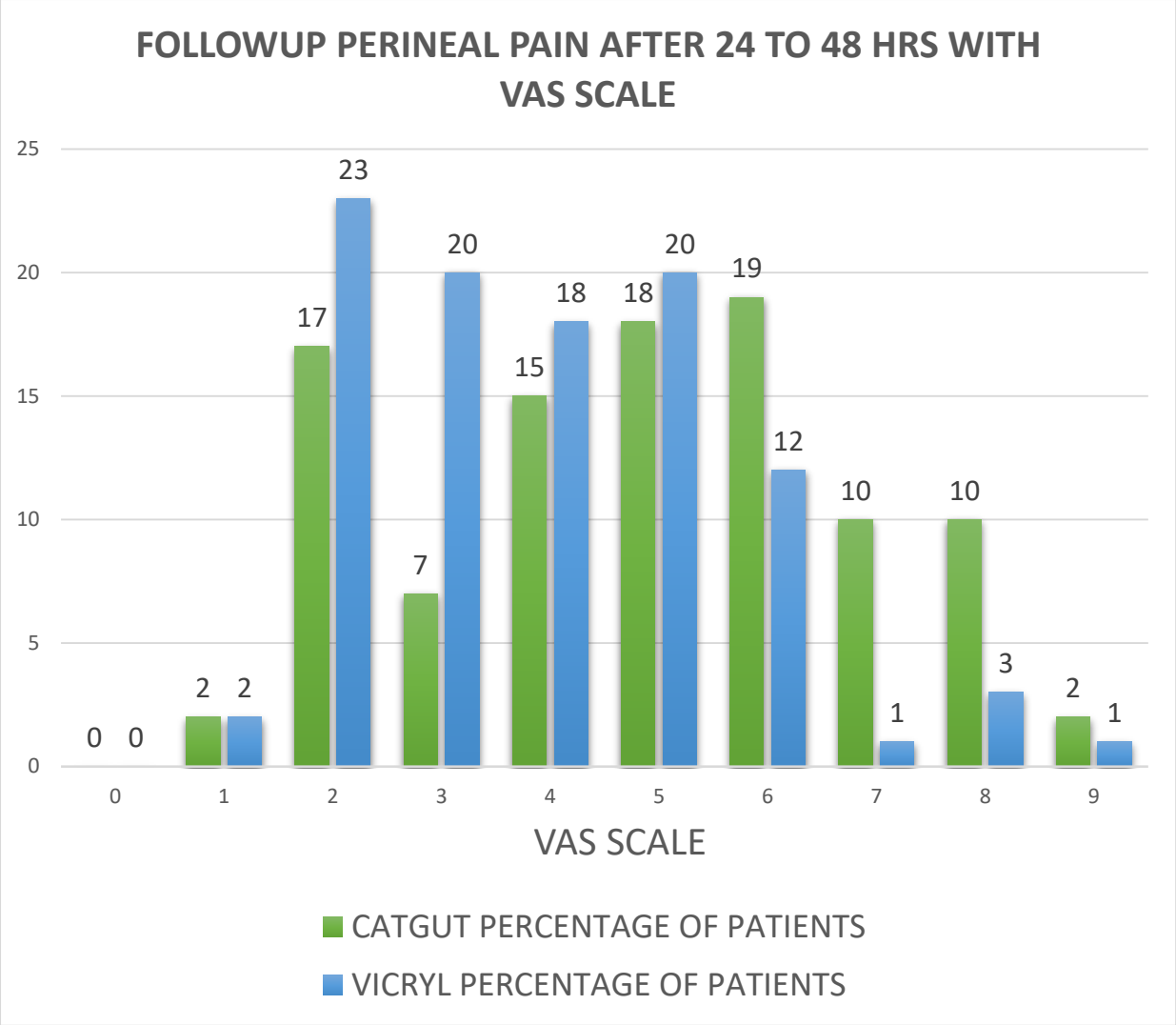
AFTER 24 TO 48 HRS			
PERINEAL PAIN	CATGUT	VICYRL	
	PERCENTAGE	PERCENTAGE	CHI SQUARE TEST
MILD	26	45	X2 = 11.551
MODERATE	56	49	P = 0.0031
SEVERE	18	6	HIGHLY SIGNIFICANT



Perineal discomfort can be mild, moderate, or severe 24 to 48 hours after birth. In comparison to Group 1, mild and moderate pain perception was as high as 94 percent in Group 2, while severe grade pain was more prevalent in Group 1, with 6 percent out of 24 percent of total severe grade pain in both groups. With a P value of 0.0031, this was statistically significant.

TABLE : 12 PERINEAL PAIN AFTER 24 TO 48 HRS AFTER DELIVERY ACCORDING TO VAS SCALE IN STUDY POPULATION

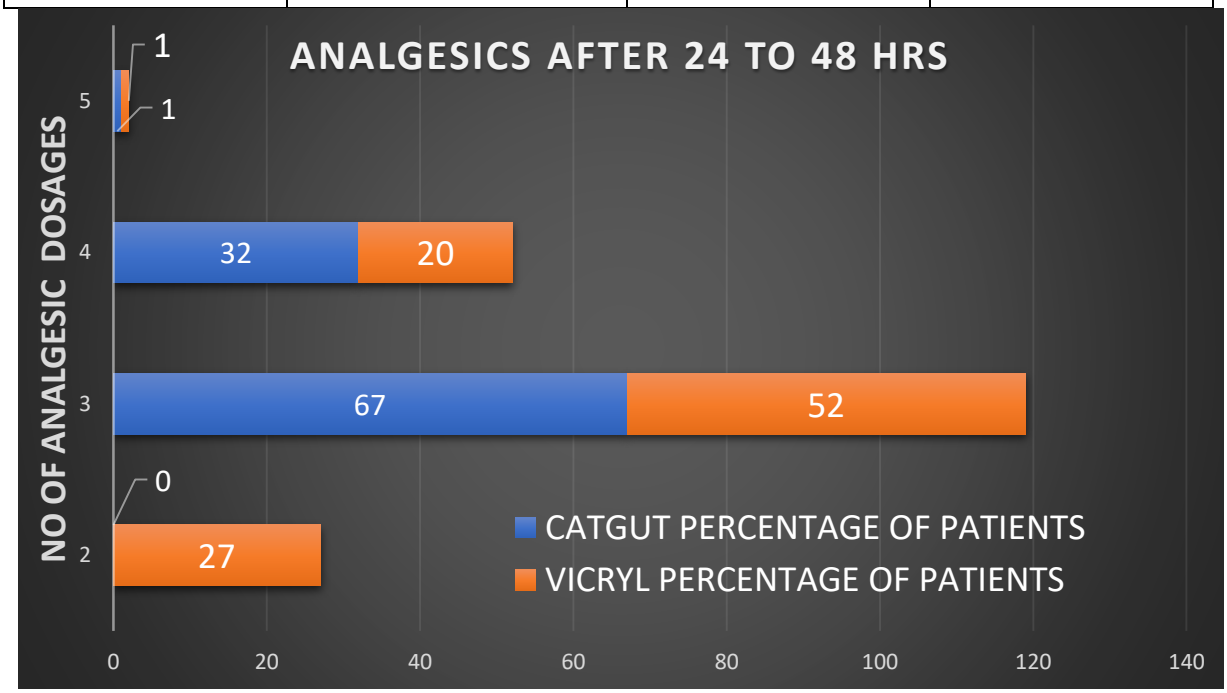
FOLLOWUP OF 24 TO 48 HRS			
PERINEAL PAIN			
VAS SCALE	CATGUT	VICRYL	
	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	CHI SQUARE TEST
0	0	0	X2 = 20.584
1	2	2	P = 0.0083
2	17	23	HIGHLY SIGNIFICANT
3	7	20	
4	15	18	
5	18	20	
6	19	12	
7	10	1	
8	10	3	
9	2	1	



After 24 to 48 hrs following delivery perineal pain was assessed using VAS scale ranging from 0 to 9 in the increasing order of pain perception. The results show that mild to moderate degree of pain is perceived majorly in cases of Group 2 while higher degree of pain is experienced more in cases of Group 1 individuals this is supportive of the evidence that Vicryl causes lesser pain than Catgut. This was statistically highly significant as p value is 0.0083.

TABLE : 13 NO OF AFTER 24 TO 48 HRS AFTER DELIVERY DOSAGES OF ANALGESICS IN STUDY POPULATION

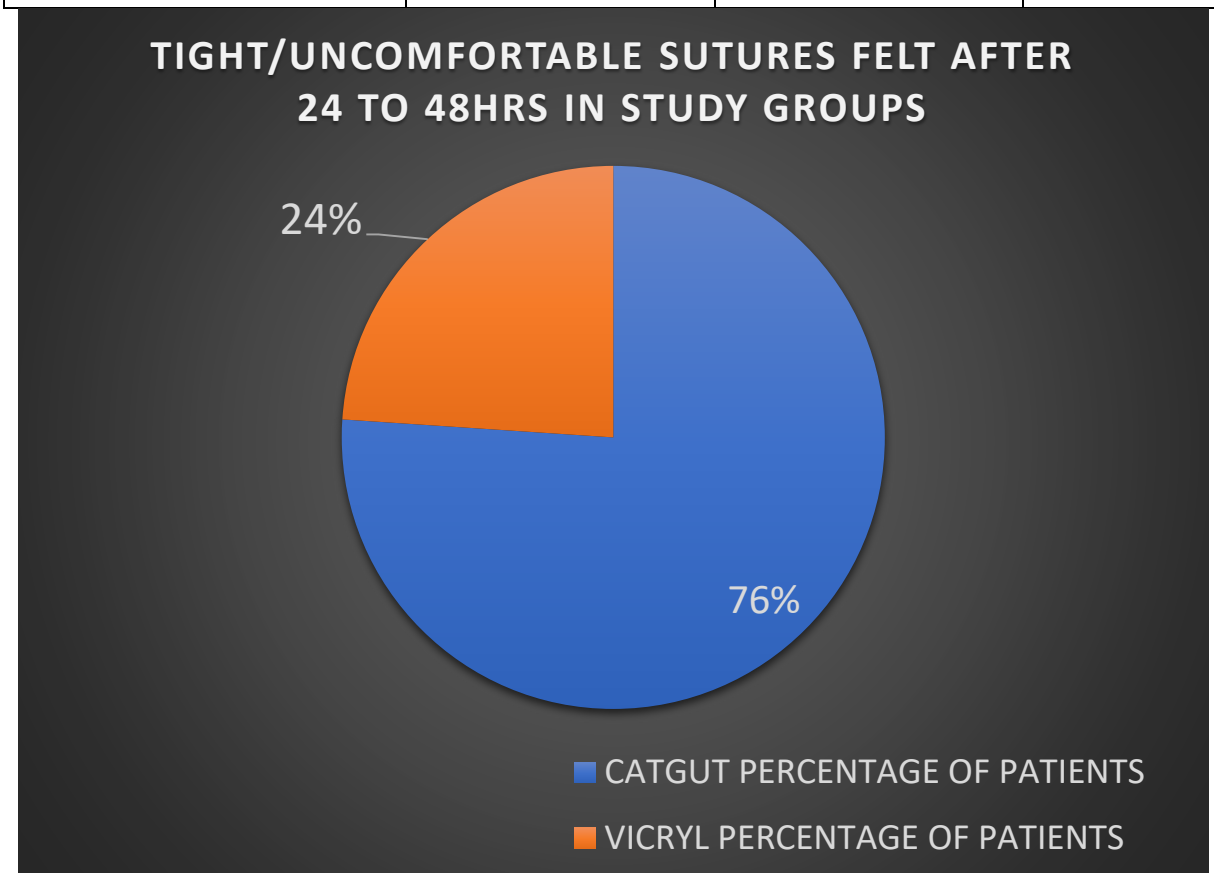
FOLLOWUP 24 TO 48 HRS			
NO OF DOSAGE OF ANALGESIC	CATGUT	VICRYL	
	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	CHI SQUARE TEST
2	0	27	X2 = 31.660
3	67	52	P = <0.0001
4	32	20	HIGHLY SIGNIFICANT
5	1	1	



After 24 to 48 hours of delivery the number doses used in both the Groups were compared and the results show that in Group 1 show minimal requirement of dosage of 3 while in Group 2 it was 2 doses. 67% of women required 3 doses of analgesics whereas only 52% required the same in case of Group 2. Only 1% patients in either groups required 5 doses of analgesics. This was statistically highly significant as p value is <0.0001.

TABLE : 14 COMPARISON OF THE DISCOMFORT/TIGHT SUTURES EXPERIENCED BY BOTH GROUPS AT 24 – 48 HRS.

FOLLOWUP 24 TO 48 HRS			CHI SQUARE TEST
TIGHT/UNCOMFORTABLE SUTURES	CATGUT PERCENTAGE OF PATIENTS	VICRYL PERCENTAGE OF PATIENTS	X2 = 29.484
YES	54	17	P = <0.0001
NO	46	83	HIGHLY SIGNIFICANT



Patients were also questioned about discomfort/tight sutures 24 to 48 hours after delivery, and 54 percent of those in the catgut group said yes, whereas just 17 percent of those in the Vicryl group said yes. Because the p value was 0.0001, this was statistically significant.

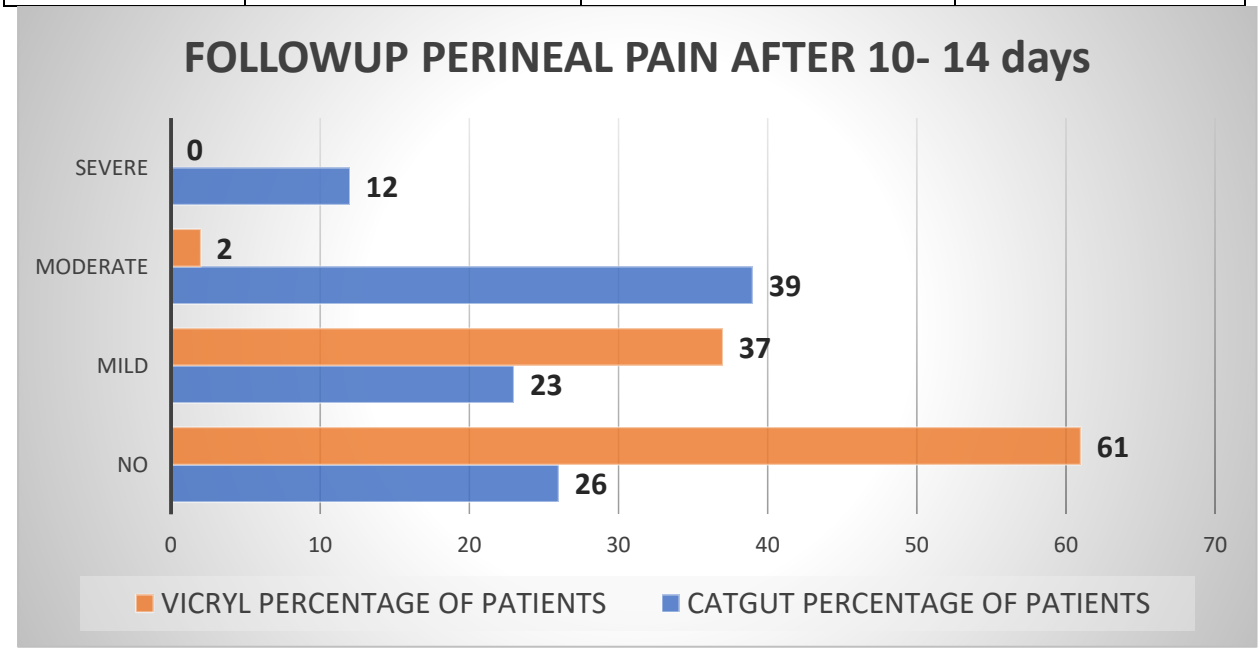
TABLE 15: COMPARISION OF THE INFECTION RATE IN BOTH GROUPS AFTER 24 TO 48 HOURS POST PARTUM

FOLLOWUP 24 TO 48 HRS			
INFECTION	CATGUT	VICRYL	CHI SQUARE TEST
	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	N/A
YES	0	0	
NO	100	100	

After 24 to 48 hours no patient in either group had any symptoms or signs of infection.

TABLE : 16 PERINEAL PAIN AFTER 10 TO 14 DAYS AFTER DELIVERY IN STUDY POPULATION

FOLLOWUP OF 10 TO 14 DAYS			
PERINEAL PAIN			
	CATGUT	VICRYL	
	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	CHI SQUARE TEST
NO	26	61	X2 = 62.735
MILD	23	37	P = < 0.0001
MODERATE	39	2	HIGHLY SIGNIFICANT
SEVERE	12	0	

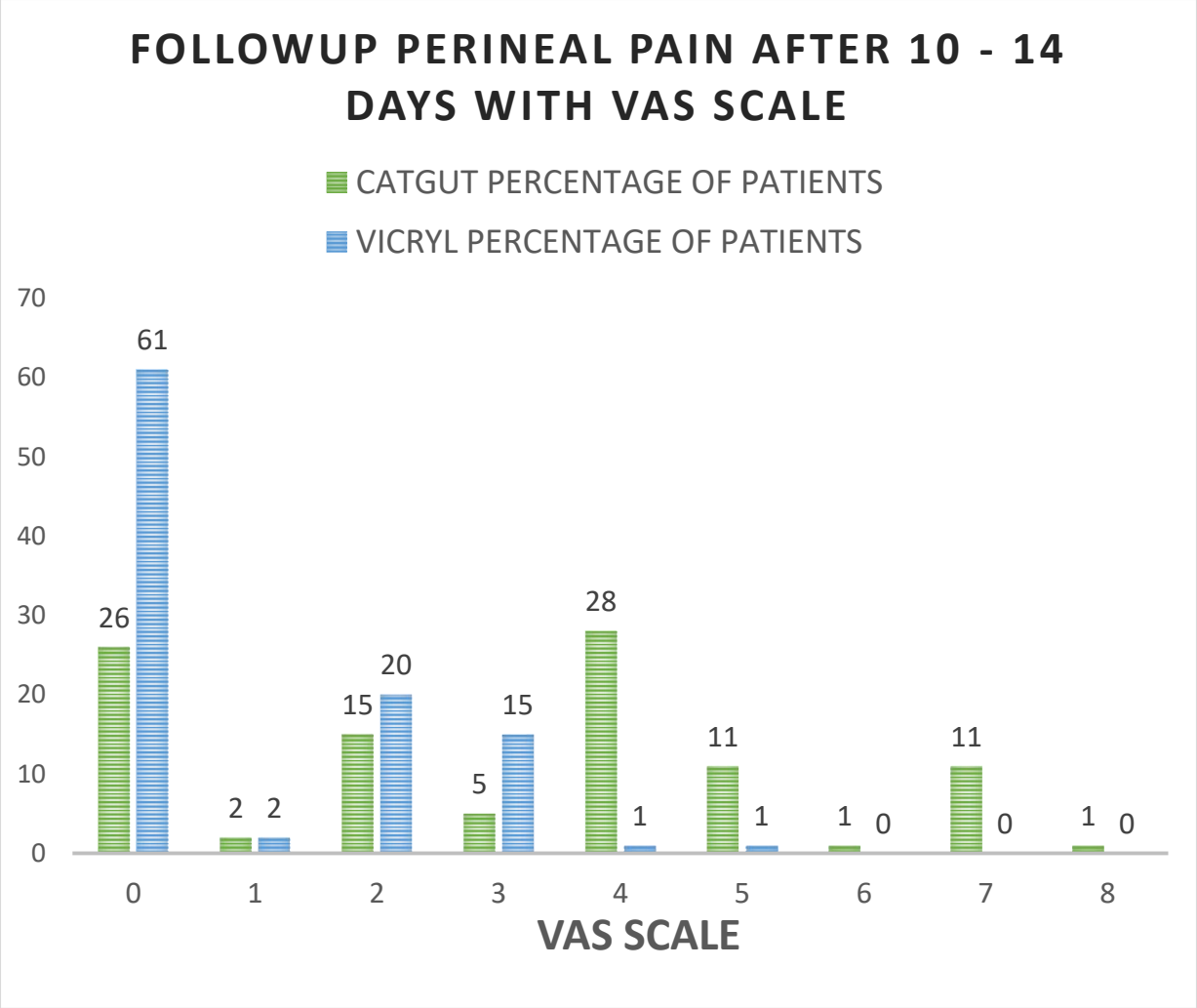


Perineal discomfort can be mild, moderate, or severe 24 to 48 hours after birth. At the end of 10 to 14 days postpartum, 26 percent of patients in Group 1 had no

pain at all, whereas 61 percent of patients in Group 2 had no pain at all. The low level of pain perception was 37 percent in Group 2 compared to 23 percent in Group 1, while the high grade pain was only 12 percent in Group 1. P = 0.0001 indicated that this was statistically significant.

TABLE : 17 PERINEAL PAIN AFTER 10 TO 14 DAYS AFTER DELIVERY ACCORDING TO VAS SCALE IN STUDY POPULATION

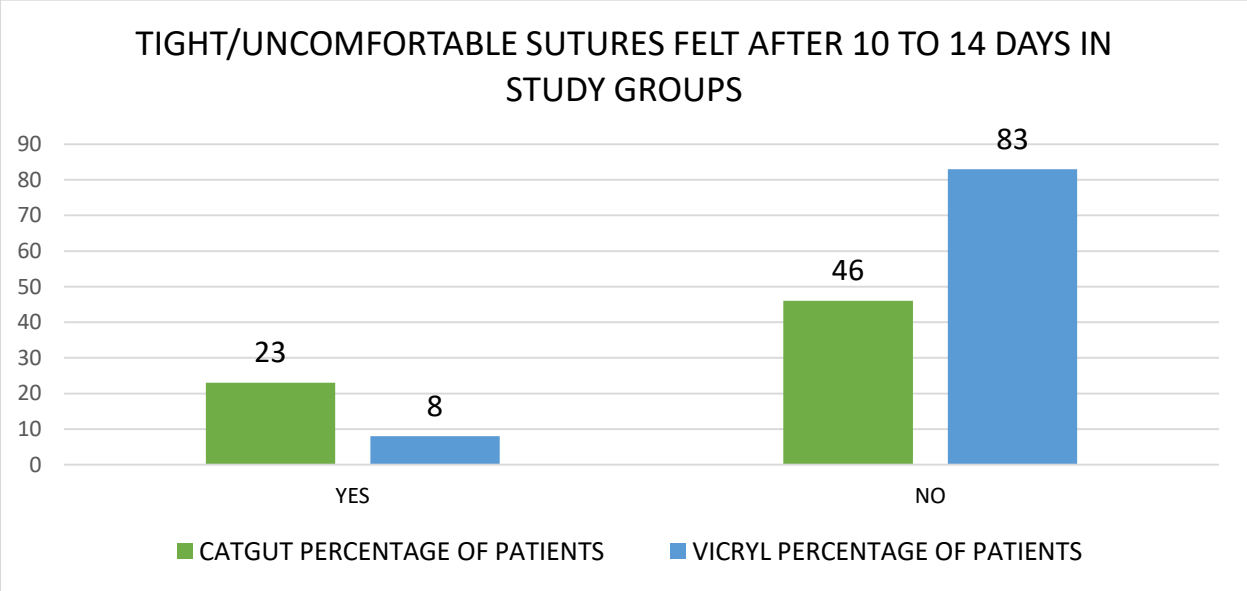
FOLLOWUP OF 10 TO 14 DAYS			
PERINEAL PAIN			
VAS SCALE	CATGUT	VICRYL	
	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	
0	26	61	
1	2	2	
2	15	20	
3	5	15	CHI SQUARE TEST X2 = 66.26 P < 0.0001 HIGHLY SIGNIFICANT
4	28	1	
5	11	1	
6	1	0	
7	11	0	
8	1	0	



After 10 to 14 days following delivery perineal pain was assessed using VAS scale ranging from 0 to 9 in the increasing order of pain perception. The results show that mild to moderate degree of pain is perceived majorly in cases of Group 2 while higher degree of pain is experienced more in cases of Group 1 individuals this is supportive of the evidence that Vicryl causes lesser pain than Catgut. In both groups, however, no women reported increased levels of discomfort. Because the p value was 0.0001, this was statistically significant.

TABLE : 18 COMPARISON OF THE DISCOMFORT/TIGHT SUTURES EXPERIENCED BY BOTH GROUPS AT 10 -14 DAYS

FOLLOWUP 10 to 14 days			
TIGHT/UNCOMFORTABLE SUTURES	CATGUT	VICRYL	CHI SQUARE TEST
	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	X2 = 8.589
YES	23	8	P = 0.0034
NO	46	83	HIGHLY SIGNIFICANT



Patients were also asked about discomfort/tight sutures 10 to 14 days after birth, and 54 percent of those in the catgut group said definitely, whereas just 17 percent of those in the Vicryl group said indeed. Because the p value was 0.0001, this was statistically significant.

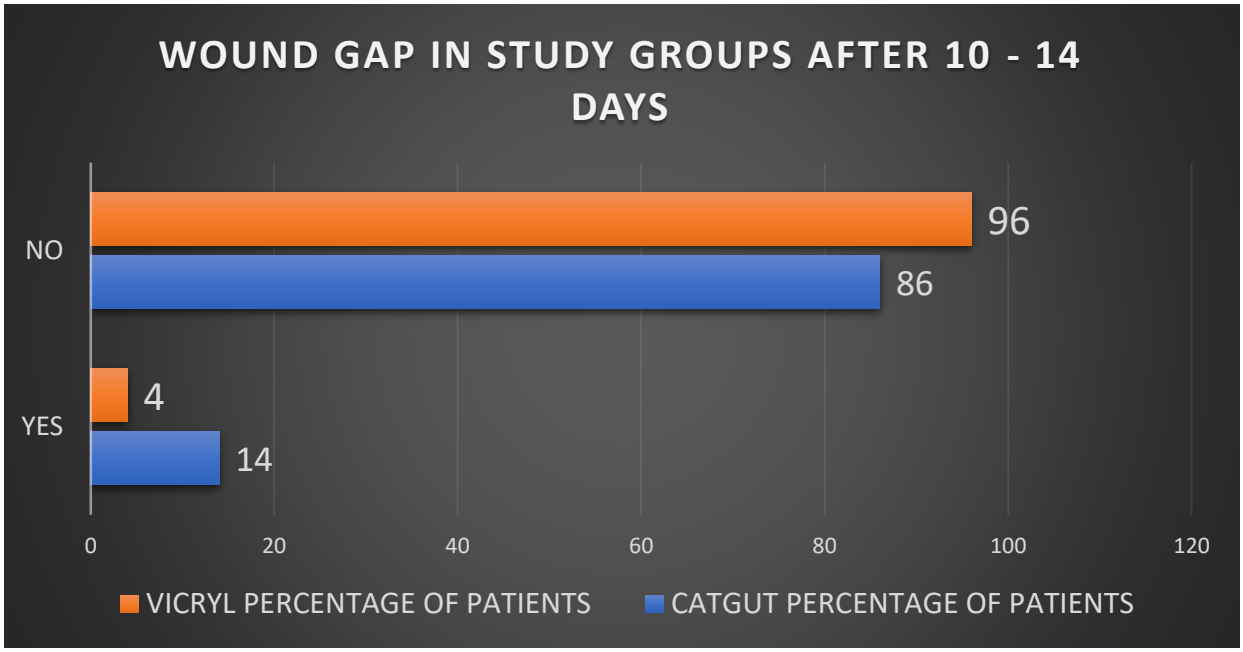
TABLE : 19 COMPARISION OF THE INFECTION RATE IN BOTH GROUPS AFTER 10 – 14 DAYS POST PARTUM

FOLLOWUP 10 - 14 DAYS			
INFECTION	CATGUT	VICRYL	
	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	CHI SQUARE TEST
YES	0	0	X2 = 1.005
NO	100	100	P = 0.3161

After 10 – 14 days no patient in either group had any symptoms or signs of infection.

TABLE : 20 COMPARISION OF THE WOUND GAPING IN BOTH GROUPS AFTER 10 – 14 DAYS POST PARTUM

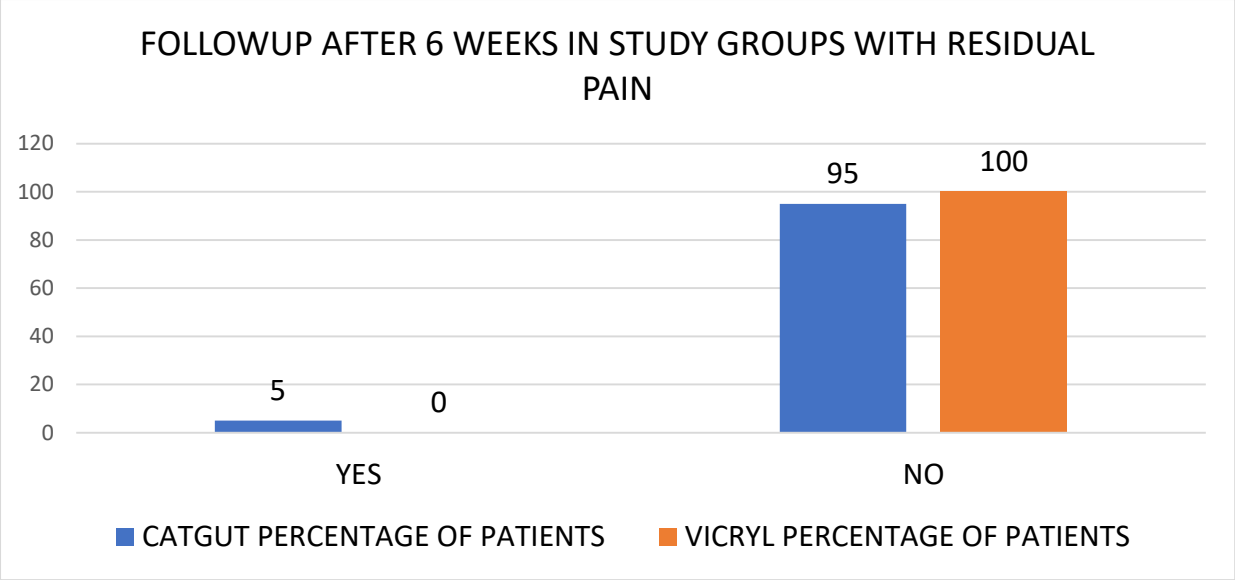
FOLLOWUP 10 - 14 DAYS			
GAPING	CATGUT	VICRYL	
	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	CHI SQUARE TEST
YES	14	4	X2 = 6.105
NO	86	96	P = 0.0135



After 10 -14 days postpartum 14 % women had wound gaping in Group 1 and 4 % in Group 2. Despite the fact that Group 1 included more patients with wound gaps, the p value of 0.0135 was not statistically significant.

TABLE : 21 COMPARISION OF RESIDUAL PERINEAL PAIN 6 WEEKS POST PARTUM

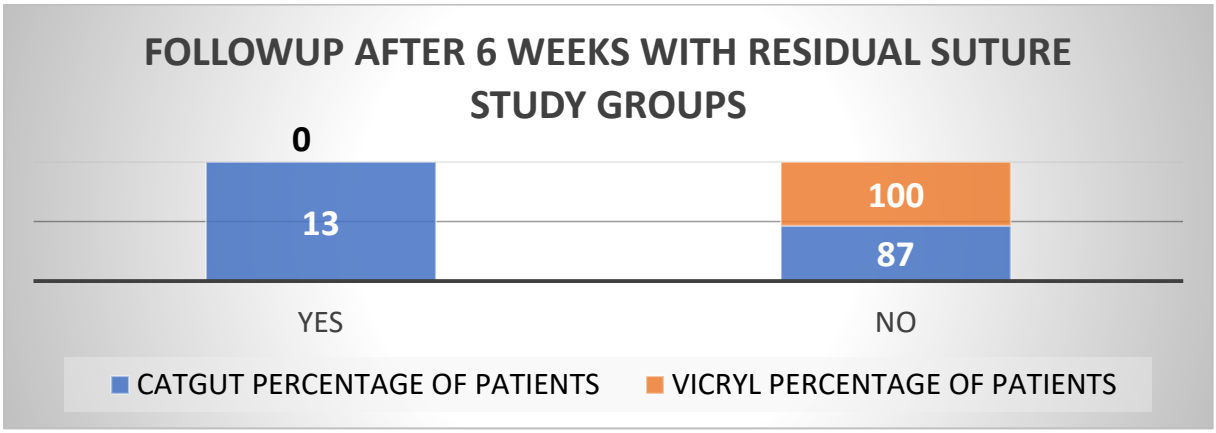
FOLLOW UP 6 WEEKS LATER			
RESIDUAL PAIN	CATGUT	VICRYL	CHI SQUARE TEST
	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	X2 = 5.128
YES	5	0	P = 0.0235
NO	95	100	HIGHLY SIGNIFICANT



After 6 weeks postpartum, patients in both groups were asked about residual pain, with only 5% in Group 1 reporting mild discomfort and none in Group 2. Because the p value was 0.0235, this was statistically significant.

TABLE : 22 COMPARISION OF ANY RESIDUAL SUTURES FOLLOWED BY 6 WEEKS POST PARTUM

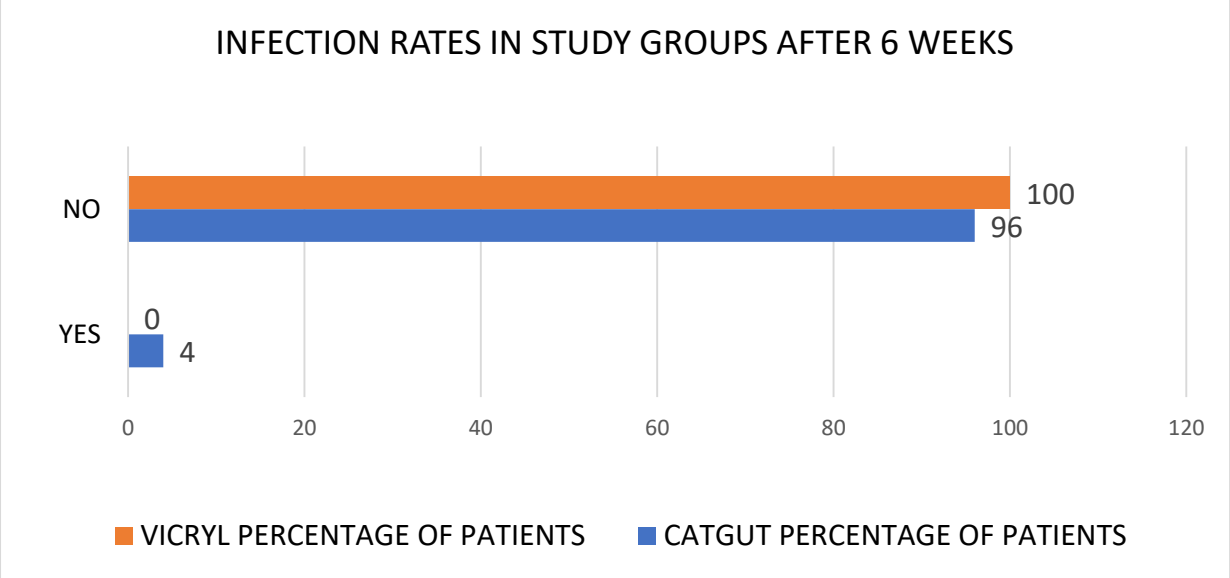
FOLLOW UP 6 WEEKS LATER			
	CATGUT	VICRYL	CHI SQUARE TEST
RESIDUAL SUTURES	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	X2 = 13.904
YES	13	0	P = 0.002
NO	87	100	HIGHLY SIGNIFICANT



In Group 1, 13 percent of women had remnant suture material at 6 weeks postpartum, whereas none of the women in Group 2 had any remaining Vicryl. Because the p value was 0.002, this was statistically significant.

TABLE : 23 COMPARISION OF INFECTION RATE IN BOTH GROUPS AFTER 6 WEEKS POST PARTUM

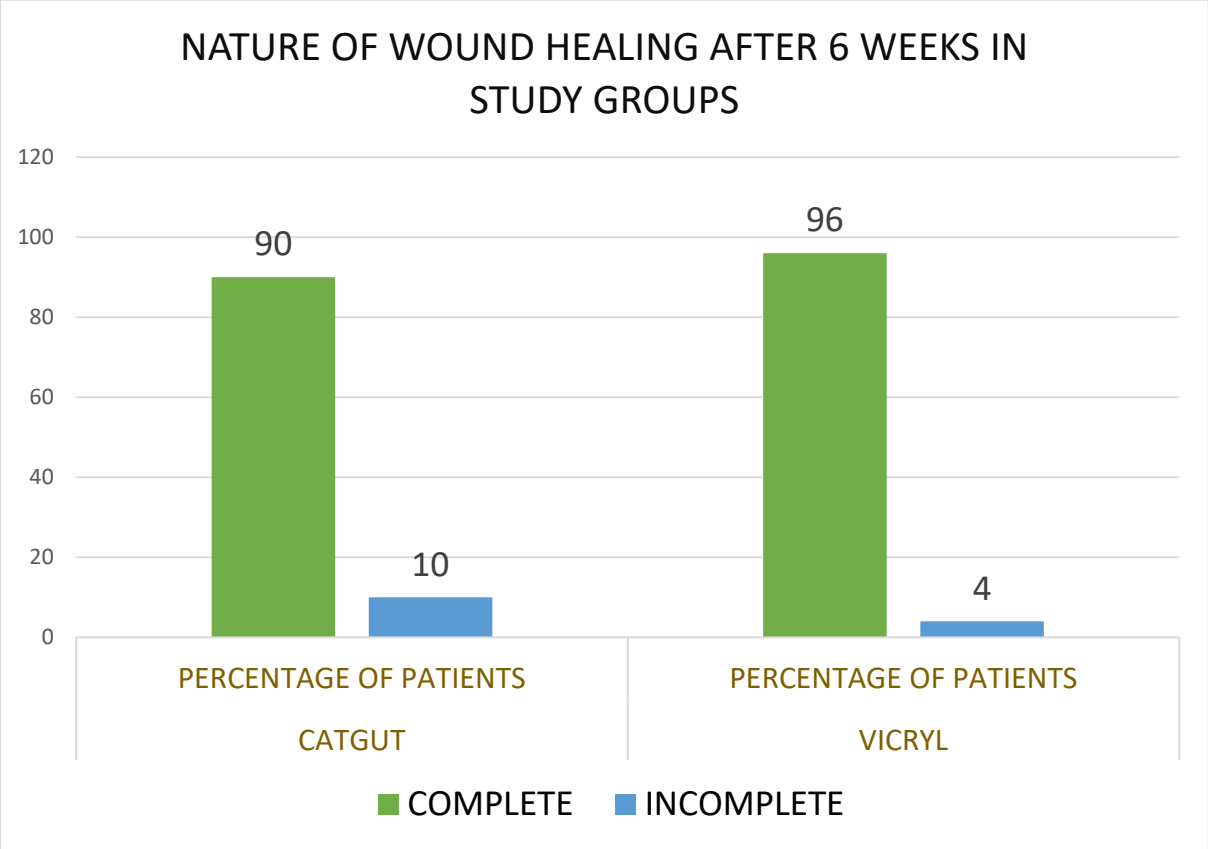
FOLLOWUP 6 WEEKS LATER			
INFECTION	CATGUT PERCENTAGE OF PATIENTS	VICRYL PERCENTAGE OF PATIENTS	CHI SQUARE TEST X2 = 4.082
YES	4	0	P = 0.0434
NO	96	100	HIGHLY SIGNIFICANT



After 6 weeks postpartum, 4% of women in Group 1 reported manifestations of infection, but none in Group 2, with a statistically significant p value of 0.0434.

TABLE : 24 COMPARISION OF WOUND HEALING 6 WEEKS POST PARTUM IN STUDY GROUPS

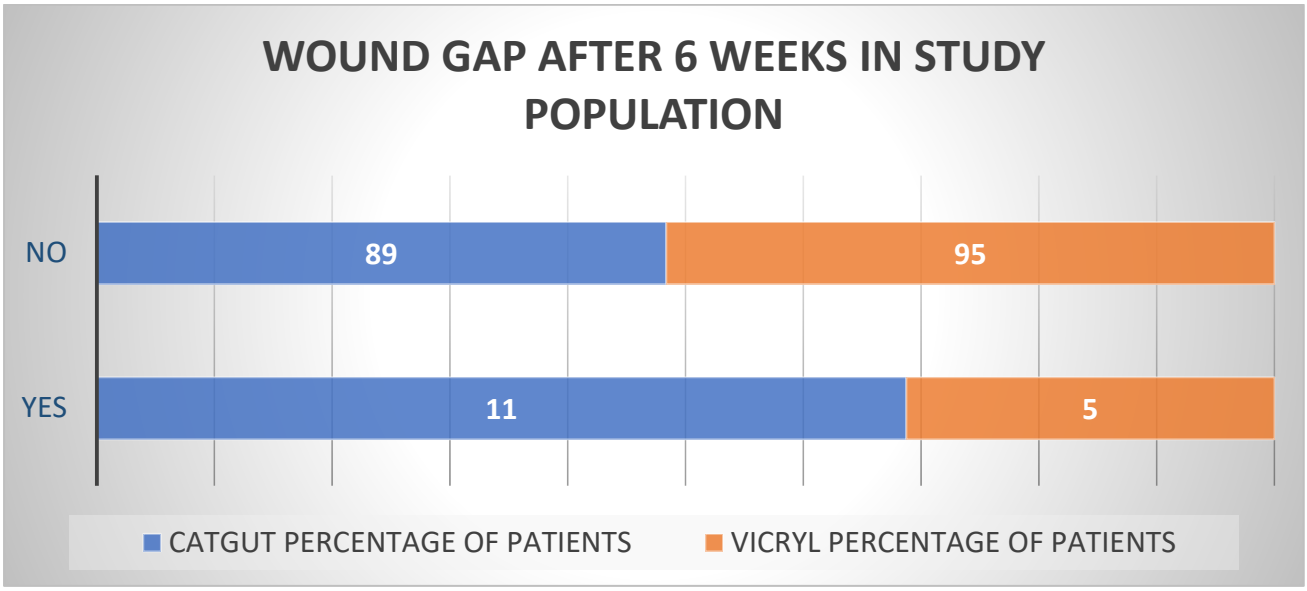
FOLLOWUP 6 WEEKS LATER			
NATURE OF WOUND HEALING	CATGUT	VICRYL	
	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	CHI SQUARE TEST
COMPLETE	90	96	X2 = 2.765
INCOMPLETE	10	4	P = 0.0963



After 6 weeks postpartum, 10% of women in Group 1 and 4% of women in Group 2 had wounds that had not healed completely. When the p value was calculated as 0.0963, it was determined that this was not statistically significant.

TABLE : 25 COMPARISION OF WOUND GAPING 6 WEEKS POST PARTUM IN STUDY GROUPS

FOLLOWUP 6 WEEKS LATER			
WOUND GAPING	CATGUT	VICRYL	
	PERCENTAGE OF PATIENTS	PERCENTAGE OF PATIENTS	CHI SQUARE TEST
YES	11	5	X2 = 2.446
NO	89	95	P = 11.76



The patients were enquired about wound gaping after 6 weeks postpartum and found that 11% of women in Group 1 had wound gaping to some extent and 5 % in Group 2. This was not statistically significant as p value was 11.76.

Method of Statistical Analysis :

In this study the following methods were used to analyse statistical results of the patients in both the groups .

For continuous data , number as well as percentage the results were averaged (mean ± standard deviation) as in cases of variables such as dichotomous data. These are presented in figures and tables.

1) Chi – Square test ($\chi 2$) used for comparison of proportions

Rows	Columns			Total
	1	2……..	c	
1	a_1	a_2	a_c	t_1
2	b_1	b_2	b_c	t_2
.	.	……	.	.
.	.	……..	.	.
r	h_1	h_2	h_c	t_r
Total	n_1	n_2	n_c	N

The observed numbers are a, b…..h.

The grand total is denoted as N

$$\chi^2 = N\left[\frac{1}{t_1}\sum_1^c \frac{a_1^2}{n_i} + \frac{1}{t_2}\sum_1^c \frac{b_1^2}{n_i} + \ldots\ldots\ldots\ldots\ldots + \frac{1}{t_r}\sum_1^c \frac{h_1^2}{n_i} - 1\right]$$

DF=(r-1)*(c-1), where r means rows and c means columns

DF stands for degrees of freedom (After placing restriction on certain data DF signifies the number of observations that vary freely)

2) Student “T” test

To determine the statistical difference between groups in the parameters that were measured the Students “t” Test was used. It is as follows :

$$t=\frac{\bar{x}_1-\bar{x}_2}{s\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}} \sim\sim\sim t_{n1+n2-2} \quad \text{Where } s^2=\frac{(n_1-1)s_1^{\,2}+(n_2-1)s_2^{\,2}}{(n_1+n_2-2)}$$

To take p value as staistically significant it was said to be less than 0.05. With the help of SPSS package the data in the study were analyzed.

DISCUSSION

Since time immemorial, several research on the use of episiotomy have been conducted, with the result that in cases with tight perineum, limited episiotomy may be more helpful than conventional episiotomy for all persons. (39)

First, a comparison between chromic catgut and vicryl, which has been used in the past. Vicryl is less tissue reactive, is absorbed through hydrolysis, and takes longer to absorb, according to the study, resulting in fewer wound infections, faster wound healing, and less postpartum pain. The use of sticky adhesive for episiotomy wounds and studies using the newer substance Dexon are among the most recent. (40)

The purpose of this study is to offer quantitative information to help guide suture material selection for episiotomy wound healing following vaginal delivery.

This study is a prospective randomised controlled trial in which 200 individuals were split into two groups and episiotomy suturing techniques and materials were evaluated. The lignocaine local anaesthetic provided adequate pain alleviation.The followups of patients were 24- 48 hours later , on 10th to 14th day and again after 6 weeks postpartum.

As in primgravida, more episiotomies and suturing were necessary, which is in consistent to earlier research on the need for episiotomies, which found that the need for episiotomies was greater in primigravida due to the tight perineum. However, according to the P-value, the difference is not significant.

In terms of age, parity, BMI, gestational age, gravidity status and the demographic data revealed no differences. There was no statistically significant difference between the two groups when it came to perineal tears , type of analgesic used and birth weight, all of which are significant prognostic indicators.

Pain was the most studied cumulative measure, with statistically significant differences in pain across procedures and suture materials. As in group 1, those who had catgut had the suture material, and the mucosa closure was continuous interlocking, followed by a muscle layer with intermittent layer, and finally a mattress suture at the skin level. When vicryl was utilised in group 2, the skin layer was closed with continuous buried subcutaneous sutures, but the remainder of the technique remained the same.

The vicryl rapid continuous group had significantly lower pain perception than the catgut group after 24 to 48 hours postpartum, and the same pattern was observed at 10 to 14 days and 6 weeks followups, where the majority of women in both groups had no pain at all, and the majority of those who did had pain belonged to the catgut group. This was statistically significant, as evidenced by the use of a more objective VAS scale at each follow-up, as well as the number of analgesics used. When asked about painful or tight sutures at the perineal region, women in Group 1 reported higher discomfort than women in Group 2 24 to 48 hours after delivery and 10 to 14 days later, which was statistically significant.

Masson et al. evaluated pain in 2000 patients throughout the postnatal period and discovered a significant difference in pain in the polyglactin group, with considerably reduced discomfort. [41]

On postnatal day 2, the polyglactin group reported 51 percent pain compared to 61 percent in the catgut group, according to Shah PK's research.[42]

In an Ipswich birthing study comparing two suture materials, the polyglactin group showed a definite advantage of reduced pain at 48 hours postpartum. [10]

The patients were followed for three months following birth in these studies, and dyspareunia was compared between the two groups. There were no statistically significant differences between the two groups, according to the research.

Kettle C and Johanson RB conducted a Cochrane systematic review of eight randomised controlled trials including 3642 women and found no discernible difference in long-term pain and dyspareunia between the absorbable synthetic and catgut suture materials. [8] Mackrodt C et al and Shah PK et al found no significant differences between the two groups. [10]

Moving on to additional comparison criteria such as infection, none of the women had any symptoms or indications of infection after 24 – 48 hours or after 10 – 14 days postpartum, while 4% of women in the catgut group had a minor infection that required outpatient treatment after 6 weeks. Because the p value was 0.0434, this was statistically significant. This was another another positive element in the vicryl group's favour.

At each follow-up postpartum, the women were asked about wound gaping. More women experienced gaping in the I catgut group (7 percent over 3 percent after 24 to 48 hours, 14 percent over 4 percent after 10 – 14 days, and 11 percent over 5 percent after 6 weeks postpartum), but only after 10 – 14 days postpartum was it statistically significant. None of them, however, needed re-suturing of the gap. This was, however, another element that favoured the Vicryl group.

Though this data may not be theoretically or statistically significant, we observed wound dehiscence in solely the catgut intermittent group, which

is commonly used in government hospitals and may be replaced with better options.

In the Ipswich Childbirth study, the appearance of wound gaping did not differ between the two groups after 24-48 hours. [10] At 6 to 8 weeks, other studies (Greenberg et al, Leroux et al, Kurian et al) found no difference in wound healing. [11,12,13]

After 6 weeks, 13% of the women in the catgut group had residual sutures at the wound site, but none of the women in the vicryl group did. Because the p value was 0.002, this was statistically significant. Overall, 10% of the women in the catgut group had incomplete wounds at 6 weeks postpartum, whereas only 4% of the women in the vicryl group had incomplete wounds.

According to a study conducted in Davangare, the primary goal of wound healing was obvious in 82 percent of cases in the vicryl rapide group and 71 percent of cases in the chromic catgut group. The tertiary type was detected in 2% of cases in the chromic catgut group, but not in the vicryl rapide group.

A 2017 research at Dharmapuri Medical College compared catgut to absorbable synthetic suture material and found that the polyglactin group had superior wound healing with nil or zero percent wound dehiscence on PND 7, compared to 15% in the catgut group, which is consistent with our findings. [43]

The continuous procedure was found to be superior to the intermittent technique in a study conducted in Maharashtra comparing two methods of suturing and wound repair in India's rural population, with 58 percent of

the continuous suturing group experiencing discomfort versus 76 % of the intermittent group having pain. [44]

These findings are in accordance with previous research, which has indicated that vicryl rapide heals wounds faster than chromic catgut. Previous study has indicated that intermittent suturing is less successful than continuous suturing and that monofilament polyglactin is a superior wound healing alternative than chromic suturing.

SUMMARY

In Shri BM Patil Medical College, we conducted a randomised prospective study on 200 women who required an episiotomy incision during labour after a normal vaginal delivery. They were split into two groups of 100, one for Catgut and the other for Vicryl.

The two groups were matched in terms of age, gestational age, BMI, labour time, use of labour analgesia, and birth weight.

They were all assessed after delivery at 24-48 hours, 10-14 days, and 6-8 weeks.

The patients were then observed for pain at the wound site, the severity of the discomfort, and whether or not analgesics were needed, edema, temperature or local warmth, induration, wound healing-discharge, and dehiscence over the postnatal period.

On comparing the wound healing nature of both groups, similar findings were obtained at 24 to 48 hours and 10 to 14 days postpartum, but the vicryl group fared better in terms of residual suture material, wound gap, and wound site infection, especially towards the end of 6 weeks postpartum.

At 24 to 48 hours, 10 to 14 days, and 6 weeks postpartum, more women in the catgut group had pain and discomfort than those in the vicryl group, and more so in the severe category on the VAS scale.

CONCLUSION

Evidently, absorbable sutures should be utilised during episiotomy. Because polyglycolic sutures are non-allergenic, have a higher tensile strength, are less prone to cause discomfort, and are less likely to cause infection, they are preferred over chromic catgut sutures. Although catgut is an option, it is not the best suture material.

Suturing with a continuous approach is better than intermittent suturing seeing as it reduces the time, uses fewer material, involves minimal knots, and therefore causes less pain.

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ANNEXURES

ETHICAL CLEARANCE CERTIFICATE

IEC/No - 131/2019
22-11-2019

B.L.D.E. (DEEMED TO BE UNIVERSITY)
(Declared vide notification No. F.9-37/2007-U.3 (A) Dated. 29-2-2008 of the MHRD, Government of India under Section 3 of the UGC Act, 1956)
The Constituent College
SHRI. B. M. PATIL MEDICAL COLLEGE, HOSPITAL AND RESEARCH CENTRE

INSTITUTIONAL ETHICAL CLEARANCE CERTIFICATE

The ethical committee of this college met on 13-11-2019 at 3-15 pm to scrutinize the synopsis of Postgraduate students of this college from Ethical Clearance point of view. After scrutiny the following original/corrected and revised version synopsis of the Thesis has been accorded Ethical Clearance

Title: Fast-absorbing polyglactin 910 versus chromic catgut suture for repair of episiotomy: a randomized comparative study

Name of PG student: : Dr. Jada Susmitha, Department of OBG

Name of Guide/Co-investigator: Dr (Mrs) Shailaja. R. Bidri, Professor
Department of OBG

DR RAGHVENDRA KULKARNI
CHAIRMAN
Institutional Ethical Committee
BLDEU's Shri B.M. Patil
Medical College,BIJAPUR-586103

Following documents were placed before Ethical Committee for Scrutinization:

1. Copy of Synopsis / Research project
2. Copy of informed consent form
3. Any other relevant documents.

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INFORMED CONSENT FOR PARTICIPATION IN DISSERTATION/RESEARCH

I, the undersigned, _____, D/O W/O _____, aged ____years, ordinarily resident of _____ do hereby state/declare that Dr JADA SUSMITHA of Shri. B. M. Patil Medical College Hospital and Research Centre has examined me thoroughly on _____ at _____ (place) and it has been explained to me in my own language that I am suffering from _____ disease (condition) and this disease/condition mimic following diseases. Further Dr JADA SUSMITHA informed me that he/she is conducting dissertation/research titled "Fast-Absorbing Polyglactin 910 versus Chromic Catgut suture for Repair of Episiotomy: A Randomized Comparative Study" under the guidance of Dr.SHAILJA R BIDRI requesting my participation in the study. Apart from routine treatment procedure, the pre-operative, operative, post-operative and follow-up observations will be utilized for the study as reference data. Doctor has also informed me that during conduct of this procedure like adverse results may be encountered. Among the above complications most of them are treatable but are not anticipated hence there is chance of aggravation of my condition and in rare circumstances it may prove fatal in spite of anticipated diagnosis and best treatment made available. Further Doctor has informed me that my participation in this study would help in evaluation of the results of the study which is useful reference to treatment of other similar cases in near future, and also I may be benefited in getting relieved of suffering or cure of the disease I am suffering.

The Doctor has also informed me that information given by me, observations made photographs video graphs taken upon me by the investigator will be kept secret and not assessed by the person other than me or my legal hirer except for academic purposes.
The Doctor did inform me that though my participation is purely voluntary, based on information given by me, I can ask any clarification during the course of treatment / study related to diagnosis, procedure of treatment, result of treatment or prognosis. At the same time I have been informed that I can withdraw from my participation in this study at any time if I want or the investigator can terminate me from the study at any time from the study but not the procedure of treatment and follow-up unless I request to be discharged.

After understanding the nature of dissertation or research, diagnosis made, mode of treatment, I the undersigned Smt _____ under my full conscious state of mind agree to participate in the said research/dissertation.

Signature of patient:

Signature of doctor:

Date:

Place

PROFORMA

Fast -Absorbing Polyglactin 910 versus Chromic Catgut suture for Repair of Episiotomy: A Randomized Comparative Study

NAME:

AGE:

IN PATIENT NUMBER (I.P No.):

DATE OF ADMISSION :

ADDRESS AND PHONE NUMBER :

L.M.P (LAST MENSTRUAL PERIOD) :

P.O.G (PERIOD OF GESTATION) :

E.D.D (EXPECTED DATE OF DELIVERY):

MENSTRUAL HISTORY :

MARITAL HISTORY (INCLUDING HISTORY OF DYSPAREUNIA):

OBSTETRIC HISTORY:

FIRST TRIMESTER:

SECOND TRIMESTER:

THIRD TRIMESTER:

PAST HISTORY:

PERSONAL HISTORY:

GENERAL PHYSICAL EXAMINATION:

HEIGHT: WEIGHT:

PALLOR:

TEMPERATURE: PULSE:

BLOOD PRESSURE:

CARDIOVASCULAR SYSTEM:

RESPIRATORY SYSTEM:

PER ABDOMEN:

PRESENTATION:

INVESTIGATIONS:

ULTRASOUND REPORT:

MODE OF DELIVERY:

PER VAGINAL:

BIRTH WEIGHT:

DATE OF DELIVERY:

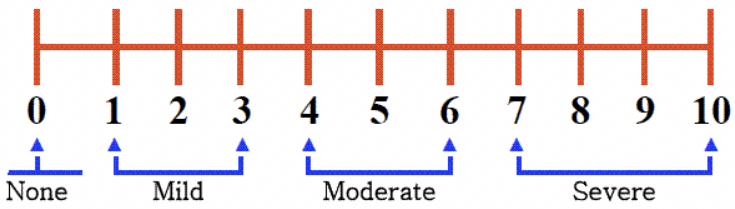
LABOUR ANALGESIA:

DURATION OF STAGES OF LABOUR:

EPISIOTOMY: YES / NO
SUTURE MATERIAL: CC / FAP

METHOD OF PERINEAL REPAIR:
PERINEAL TEARS:

ANALGESIA PRESCRIBED AFTER DELIVERY:



NUMERIC PAIN INTENSITY SCALE

OUTCOME AT 24-48 HRS

1. Time since delivery (Hrs)
2. Perineal pain during past 24 hrs : no/mild/moderate/severe
3. Number of doses of analgesia used during past 24 hrs :
4. Tight/uncomfortable sutures : yes / no
5. Infection at episiotomy site:
6. Appearance of perineal gaping :

OUTCOME AT 10-14 DAYS

1. Time since delivery (days) :
2. Residual perineal pain :
3. Analgesia required in past 24 hrs :
4. Tight/uncomfortable sutures : yes /no
5. Need for suture removal
6. Nature of wound healing :
7. Need for resuturing :
8. Need for in-patient treatment :

OUTCOME AT 6 – 8 WEEKS

1. Time since delivery (weeks) :
2. Residual perineal pain : yes/no
3. Analgesic required during past 1 week for perineal pain : yes/no
4. Residual suture material : yes/no
5. Nature of wound healing :
6. Need for inpatient treatment :

Sl No	Name	IP No	Age (Yrs)	BMI (KG/M2)	POG (weeks)	Gestation Age (days)	POG	OBS SCOR	GRAVIDA	PARA	LIVING	DEAD	ABORTION	Suture Material	PERINEAL TEAR	TIME TAKEN TO SUTURE	NO OF SUTURE	BIRTH WEIGHT	ANALGESIC USED	24 TO 48 HOU	Perineal Pain	Perineal Pai	No Of Dosage	Tight/ Uncomfortable	Infection	Gaping	10 to 14 Day	Residual Pain	Residual Pain (VAS	Need for Analgesia	Tight /Uncomforta	Infection	Nature of Wound Healing	6 weeks late	Residual Pain	Need for Ana	Residual Sut	Infection	Nature of Wound Healing	Gaping
1	SAVITA JOLAD	40754	25	22	39	4	39.6		2	0	0	1	CC	NO	20.0	1.0	3.0	Ibuprofen		Mild	3	3	Yes	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
2	MAHANANDA MATH	40844	27	21	39	0	39		2	1	1	0	CC	NO	25.00	1.00	2.86	Ibuprofen		Moderate	5	3	Yes	No	No		Mild	1	No	No	No	Satisfactory		No	No	No	No	Complete	no
3	DEEPA BABE	42636	26	19	39	6	39.9		2	1	1	0	CC	NO	19.00	1.00	2.76	diclo		Mild	2	3	No	No	No		Mild	1	No	No	No	Satisfactory		No	No	No	No	Complete	no
4	ANITA DALAVAI	43049	20	25	40	2	40.3		1	0	0	0	CC	NO	25.0	2.0	2.7	Ibuprofen		Moderate	6	4	Yes	No	No		No	0	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
5	DANAKKA PUJARI	43289	21	15	37	3	37.4		2	1	1	0	CC	NO	20.00	1.00	2.20	Ibuprofen		Moderate	5	4	Yes	No	No		Mild	2	No	Yes	No	Superficial Gaping		No	No	No	No	Incomplete	yes
6	GEETA HARIZAN	43348	22	18	38	2	38.3		2	1	1	0	CC	NO	30.00	2.00	3.24	Ibuprofen		Moderate	4	3	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
7	SHREEDEVI BADIGERI	43353	27	19	39	1	39.1		1	0	0	0	CC	NO	25.00	1.50	2.10	diclo		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
8	MEENAZ SANAVAD	43520	20	19	40	3	40.4		1	0	0	0	CC	NO	20.00	1.50	3.12	Ibuprofen		Moderate	6	4	No	No	No		Moderate	4	No	No	No	Superficial Gaping		No	No	No	No	Complete	no
9	SHRUTI	44567	23	20	36	4	36.6		1	0	0	0	CC	NO	24.00	1.00	2.60	Ibuprofen		Moderate	6	3	Yes	No	No		Moderate	4	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
10	BHAGAMMA	43776	20	17	39	1	39.1		1	0	0	0	CC	YES	26.00	1.00	2.90	diclo		Severe	8	4	Yes	No	Superficial		Severe	7	Yes	Yes	No	Superficial Gaping		yes	yes	yes	yes	Incomplete	yes
11	POOJA	340	25	18	38	6	38.9		2	1	1	0	CC	NO	21.00	2.00	2.90	Ibuprofen		Mild	3	3	Yes	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
12	LAXMI PATIL	600	25	28	40	3	40.4		1	0	0	0	CC	NO	16.00	1.50	3.20	Ibuprofen		Moderate	6	4	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
13	KANYAKUMARI	764	22	20	39	5	39.7		3	2	1	1	0	CC	NO	13.00	1.00	2.50	Ibuprofen		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
14	ASHWINI	945	24	24	39	2	39.3		3	1	1	0	1	CC	NO	20.00	2.00	2.60	Ibuprofen		Moderate	5	3	No	No	No		Moderate	4	No	No	No	Superficial Gaping		yes	yes	yes	yes	Complete	yes
15	GAYATRI SUTAR	979	32	22	41	4	41.6		3	2	2	0	0	CC	NO	27.00	1.50	2.90	Ibuprofen		Moderate	4	3	No	No	No		Moderate	5	No	No	No	Satisfactory		No	No	No	No	Complete	no
16	SANGEETA SULL	999	20	20	40	4	40.6		1	0	0	0	0	CC	NO	25.00	1.00	2.20	Ibuprofen		Moderate	6	3	No	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
17	SAVITA LAMANI	1157	31	18	39	4	39.6		3	2	2	0	0	CC	NO	16.00	1.00	1.50	Ibuprofen		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
18	SHIRKANYA SHARANBASAPA	1409	24	18	36	6	36.9		1	0	0	0	0	CC	NO	22.00	1.00	2.30	Ibuprofen		Moderate	6	3	Yes	No	No		Mild	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
19	RUKSANA	1593	22	17	40	3	40.4		3	2	2	0	0	CC	NO	26.00	2.00	3.66	Ibuprofen		Severe	9	4	Yes	No	Superficial		Severe	7	Yes	Yes	Yes	Superficial Gaping		yes	yes	yes	yes	Incomplete	yes
20	SUNITA MASALI	1794	24	19	40	4	40.6		3	2	1	1	0	CC	NO	23.00	1.50	3.44	Ibuprofen		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
21	GEETA JADHAV	2033	21	24	38	1	38.1		3	1	1	0	1	CC	NO	14.00	1.00	2.80	Ibuprofen		Moderate	5	3	Yes	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
22	SAMEENA MALASAI	2114	20	23	36	3	36.4		1	0	0	0	0	CC	NO	28.00	1.50	2.70	diclo		Severe	7	3	Yes	No	No		Severe	8	Yes	Yes	No	Satisfactory		No	No	No	No	Complete	no
23	ARUNA PUJAR	1984	24	20	37	6	37.9		4	1	1	0	2	CC	NO	19.00	2.00	3.61	Ibuprofen		Mild	1	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
24	LAXMI KUMBA	4337	22	21	38	6	38.9		2	1	1	0	0	CC	NO	17.00	1.00	2.98	Ibuprofen		Moderate	6	3	Yes	No	Superficial		Severe	7	Yes	No	No	Superficial Gaping		No	No	No	No	Complete	no
25	ANAJANA	4588	20	19	39	4	39.6		1	0	0	0	0	CC	NO	16.00	1.50	2.50	diclo		Moderate	5	3	No	No	No		Moderate	5	No	No	No	Satisfactory		No	No	No	No	Complete	no
26	SUJATA	4333	21	18	39	6	39.9		1	0	0	0	0	CC	NO	15.00	1.00	2.60	Ibuprofen		Mild	3	4	No	No	No		Moderate	5	No	No	No	Satisfactory		No	No	No	No	Complete	no
27	NAGARNA	5964	20	18	39	6	39.9		1	0	0	0	0	CC	NO	15.00	2.00	3.00	Ibuprofen		Moderate	6	3	Yes	No	Superficial		Severe	6	Yes	No	No	Superficial Gaping		yes	yes	yes	yes	Incomplete	yes
28	BHAGYASHREE	5753	24	20	40	0	40		2	0	0	0	1	CC	NO	20.00	1.00	2.76	Ibuprofen		Severe	8	3	Yes	No	No		Moderate	4	Yes	Yes	No	Satisfactory		No	No	No	No	Complete	no
29	PAVITRA BIDARI	6625	28	21	37	1	37.1		1	0	0	0	0	CC	NO	17.00	1.50	2.70	Ibuprofen		Mild	3	4	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
30	RAJASHREE	6832	28	27	38	2	38.3		1	0	0	0	0	CC	NO	10.00	1.50	3.10	Ibuprofen		Moderate	5	4	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
31	SHOBHA	6519	27	21	39	0	39		2	1	1	0	0	CC	NO	20.00	2.00	3.80	Ibuprofen		Mild	2	3	Yes	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
32	MALAMA	6571	22	20	41	0	41		1	0	0	0	0	CC	NO	15.00	1.50	3.00	Ibuprofen		Moderate	4	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
33	SALEEMA	6182	22	17	38	1	38.1		2	1	1	0	0	CC	NO	16.00	1.50	2.30	Ibuprofen		Moderate	4	3	Yes	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
34	ANNAPURA	4499	35	14	37	2	37.3		1	0	0	0	0	CC	NO	22.00	1.50	2.50	Ibuprofen		Severe	7	3	Yes	No	Superficial		Severe	7	Yes	Yes	No	Satisfactory		No	No	No	No	Complete	no
35	LAXMI	4141	22	16	39	6	39.9		2	0	0	0	1	CC	NO	20.00	2.00	3.40	Ibuprofen		Mild	2	3	No	No	No		Moderate	7	No	No	No	Satisfactory		No	No	No	No	Complete	no
36	JAYASHREE	6890	24	18	41	3	41.4		1	0	0	0	0	CC	NO	30.00	1.50	2.58	Ibuprofen		Moderate	6	3	Yes	No	No		Mild	3	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
37	AMRITA	3966	21	15	38	6	38.9		1	0	0	0	0	CC	NO	10.00	1.50	2.82	diclo		Moderate	7	3	Yes	No	No		Moderate	5	No	No	No	Satisfactory		No	No	No	No	Complete	no
38	SUJATHA	5277	19	21	39	6	39.9		2	0	0	0	1	CC	NO	20.00	1.00	2.40	diclo		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
39	LAXMI	5572	25	16	37	3	37.4		1	0	0	0	0	CC	YES	15.00	1.00	2.50	diclo		Moderate	7	4	Yes	No	Superficial		Moderate	4	Yes	No	No	Superficial Gaping		yes	No	yes	No	incomplete	yes
40	DURGADEVI	4876	30	14	39	4	39.6		2	1	1	0	0	CC	NO	18.00	2.00	3.06	Ibuprofen		Moderate	7	4	No	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
41	BASAMMA	8197	25	18	38	2	38.3		2	1	1	0	0	CC	NO	21.00	1.00	2.15	Ibuprofen		Mild	2	4	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
42	LAXMI	7473	20	20	40	5	40.7		1	0	0	0	0	CC	NO	16.00	1.50	2.50	Ibuprofen		Moderate	7	4	Yes	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
43	RAJEMA	8106	25	21	38	0	38		2	1	1	0	0	CC	NO	18.00	2.00	3.20	diclo		Severe	8	4	Yes	No	No		Severe	7	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
44	SRUTI	8130	24	15	38	6	38.9		1	0	0	0	0	CC	NO	27.00	1.00	3.10	Ibuprofen		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
45	REKHA	7895	25	14	38	5	38.7		2	1	1	0	0	CC	NO	14.00	1.50	3.20	Ibuprofen		Moderate	6	3	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
46	VAISHALI	7833	24	16	42	0	42		1	0	0	0	0	CC	NO	15.00	2.00	3.44	Ibuprofen		Severe	8	3	Yes	No	No		Moderate	4	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
47	JYOTI	7645	21	22	41	0	41		2	0	0	0	1	CC	NO	18.00	2.00	3.00	Ibuprofen		Mild	2	4	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
48	SULEKADEVI	7884	37	24	37	0	37		2	0	0	0	1	CC	NO	22.00	1.00	2.50	Ibuprofen		Moderate	5	4	Yes	No	No		Moderate	5	No	No	No	Satisfactory		No	No	No	No	Complete	no
49	RENNUKA	8847	35	20	40	0	40		2	0	0	0	1	CC	NO	14.00	1.00	2.50	Ibuprofen		Severe	7	4	Yes	No	Superficial		Severe	7	Yes	Yes	No	Satisfactory		No	No	No	No	Complete	no
50	GAYATRI SUTAR	8730	20	21	36	4	36.6		1	0	0	0	0	CC	NO	21.00	1.00	2.70	diclo		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
51	NIRMALA	8206	22	22	39	6	39.9		1	0	0	0	0	CC	NO	27.00	1.50	3.00	diclo		Moderate	5	3	Yes	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
52	TARA	8712	25	19	38	5	38.7		1	0	0	0	0	CC	NO	12.00	2.00	3.64	Ibuprofen		Moderate	4	3	Yes	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
53	HASINABEGAM	9095	25	15	38	3	38.4		2	0	0	0	1	CC	NO	25.00	1.50	3.30	diclo		Moderate	5	3	No	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
54	GEETHA	9104	30	17	38	5	38.7		2	0	0	0	1	CC	NO	11.00	1.00	2.24	Ibuprofen		Severe	8	4	Yes	No	No		Moderate	4	No	No	No	Superficial Gaping		No	No	yes	No	incomplete	yes
55	AMRUTA	9122	25	15	40	0	40		1	0	0	0	0	CC	NO	16.00	2.00	3.20	Ibuprofen		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
56	SUJATA	9852	26	20	39	5	39.7		4	1	1	0	2	CC	NO	9.00	1.00	3.00	diclo		Moderate	6	3	Yes	No	No		Moderate	5	No	No	No	Satisfactory		No	No	No	No	Complete	no
57	BHAGYASHREE	9541	20	21	38	2	38.3		1	0	0	0	0	CC	NO	22.00	1.00	2.90	diclo		Moderate	6	4	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
58	PARAVIN	9672	22	22	39	6	39.9		1	0	0	0	0	CC	NO	28.00	1.50	2.61	diclo		Moderate	5	4	Yes	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no

59	VIDYA	9558	23	28	39	0	39		1	0	0	0	0	CC	NO	14.00	1.50	2.50	diclo		Severe	8	4	Yes	No	No		Severe	7	Yes	Yes	No	Superficial Gaping		No	No	yes	No	incomplete	yes
60	SAVITA	9525	25	21	39	0	39		1	0	0	0	0	CC	NO	29.00	2.00	2.70	diclo		Moderate	5	4	Yes	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
61	SHAILESHSHREE	9303	25	27	38	3	38.4		2	0	0	0	1	CC	NO	18.00	1.00	2.00	diclo		Moderate	6	3	No	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
62	SANGEEETA	9917	27	20	37	2	37.3		2	1	1	0	0	CC	NO	14.00	1.50	2.80	Ibuprofen		Moderate	4	3	Yes	No	No		Moderate	5	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
63	DEVAMMA	13499	22	18	36	0	36		1	0	0	0	0	CC	NO	26.00	2.00	2.90	Ibuprofen		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
64	BHAGYASHREE	13483	24	15	39	0	39		2	1	1	0	0	CC	NO	12.00	2.00	3.10	Ibuprofen		Moderate	6	3	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
65	SHARENNEMA	13411	28	19	39	0	39		3	1	1	0	1	CC	NO	16.00	2.00	2.71	Ibuprofen		Severe	7	3	Yes	No	No		Moderate	4	No	No	No	Superficial Gaping		No	No	yes	No	Complete	no
66	VIJAYLAXMI	13233	32	23	40	6	40.9		1	0	0	0	0	CC	NO	22.00	1.00	2.70	diclo		Severe	9	4	Yes	No	No		Severe	7	Yes	Yes	No	Superficial Gaping		No	No	yes	No	Complete	no
67	SUNITA	13171	23	24	38	3	38.4		2	0	0	0	1	CC	NO	10.00	1.00	2.70	Ibuprofen		Mild	3	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
68	SAVITRI	10697	21	21	42	0	42		2	1	1	0	0	CC	NO	22.00	2.00	2.30	diclo		Severe	8	4	Yes	No	No		Moderate	5	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
69	ARCHANA	10637	18	20	38	5	38.7		1	0	0	0	0	CC	NO	12.00	1.00	2.80	Ibuprofen		Moderate	6	3	No	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
70	MEGHA	106777	19	17	36	5	36.7		1	0	0	0	0	CC	NO	19.00	1.00	2.60	Ibuprofen		Moderate	5	3	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
71	SUCHITRA	10831	24	17	40	0	40		2	0	0	0	1	CC	NO	16.00	2.00	3.40	Ibuprofen		Moderate	5	3	No	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
72	VIDYASHREE	10866	26	15	41	0	41		2	1	1	0	0	CC	NO	15.00	1.00	3.00	Ibuprofen		Moderate	4	3	No	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
73	KAREHEENA	16350	20	16	38	4	38.6		1	0	0	0	0	CC	NO	27.00	2.00	2.50	diclo		Moderate	4	3	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
74	SHEELA	12503	30	19	37	3	37.4		1	0	0	0	0	CC	NO	20.00	1.00	2.10	Ibuprofen		Moderate	4	3	No	No	No		Moderate	4	No	No	No	Satisfactory		No	No	yes	No	Complete	no
75	SAVITA	13460	22	21	40	5	40.7		1	0	0	0	0	CC	NO	20.00	2.00	2.70	Ibuprofen		Moderate	5	3	Yes	No	No		Moderate	5	No	No	No	Satisfactory		No	No	No	No	Complete	no
76	MEENAKSHI	14614	21	20	38	6	38.9		2	1	1	0	0	CC	YES	12.00	1.50	2.40	diclo		Moderate	6	4	Yes	No	No		Moderate	4	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
77	TRIVENI	13909	22	21	37	5	37.7		2	1	1	0	0	CC	NO	16.00	1.00	2.30	Ibuprofen		Moderate	4	4	No	No	No		Moderate	4	No	No	No	Superficial Gaping		No	No	No	No	Complete	no
78	ROOPA	15036	31	22	39	1	39.1		2	0	0	0	1	CC	NO	12.00	2.00	3.40	diclo		Moderate	4	3	No	No	No		Moderate	5	No	No	No	Satisfactory		No	No	No	No	Complete	no
79	ROOPA	15567	22	17	39	4	39.6		2	1	1	0	0	CC	NO	13.00	2.00	3.40	diclo		Mild	3	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
80	SIDDAMMA	14923	23	18	40	0	40		2	0	0	0	1	CC	NO	12.00	1.50	2.70	diclo		Moderate	5	3	Yes	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
81	KAVITA	16579	30	19	39	1	39.1		2	1	1	0	0	CC	NO	20.00	1.50	3.00	diclo		Severe	7	4	Yes	No	No		Moderate	4	No	Yes	No	Superficial Gaping		No	No	No	No	Complete	no
82	BHAGYASHREE	15455	25	21	40	3	40.4		2	1	1	0	0	CC	NO	21.00	1.00	2.48	diclo		Moderate	4	3	No	No	No		Moderate	4	No	No	No	Satisfactory		No	No	No	No	Complete	no
83	GANGABA	14749	25	20	38	3	38.4		3	1	1	0	1	CC	NO	22.00	1.00	2.50	diclo		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
84	ASHWINI	14815	22	22	36	6	36.9		2	1	1	0	0	CC	NO	22.00	1.50	2.30	diclo		Moderate	4	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
85	SHAILATA	15918	26	23	39	1	39.1		1	0	0	0	0	CC	NO	14.00	2.00	3.34	Ibuprofen		Severe	7	3	Yes	No	No		Severe	7	Yes	Yes	No	Satisfactory		No	No	No	No	Complete	no
86	SHAGUFTABEGUM	15542	25	21	39	4	39.6		2	1	1	0	0	CC	NO	12.00	1.50	2.90	Ibuprofen		Mild	3	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	yes	No	incomplete	yes
87	DEEPA	17884	21	20	41	0	41		1	0	0	0	0	CC	NO	17.00	2.00	3.00	diclo		Moderate	5	3	Yes	No	No		Moderate	4	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
88	KAVERI	18016	28	19	39	0	39		2	1	1	0	0	CC	NO	13.00	1.50	2.90	diclo		Severe	8	4	Yes	No	No		Severe	7	Yes	Yes	No	Satisfactory		No	No	No	No	Complete	no
89	HEENA	18019	28	21	38	0	38		2	1	1	0	0	CC	NO	18.00	2.00	2.70	diclo		Severe	8	5	Yes	No	No		Moderate	5	No	No	No	Satisfactory		No	No	No	No	Complete	no
90	SANIYA	18077	23	22	39	3	39.4		1	0	0	0	0	CC	NO	14.00	1.50	2.80	Ibuprofen		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
91	RAJESHWARI	18066	30	19	41	5	41.7		2	1	1	0	0	CC	NO	20.00	1.50	3.20	diclo		Moderate	5	3	No	No	No		Mild	3	No	No	No	Satisfactory		No	No	yes	No	incomplete	yes
92	POOJA	28082	26	26	38	0	38		1	0	0	0	0	CC	NO	12.00	1.50	2.80	diclo		Severe	8	4	Yes	No	No		Moderate	4	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
93	SUNITA	18748	25	20	38	0	38		3	2	2	0	0	CC	NO	20.00	2.00	3.10	Ibuprofen		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
94	SHWETA	18357	25	21	38	2	38.3		1	0	0	0	0	CC	NO	12.00	1.00	2.70	diclo		Moderate	6	4	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
95	KAVERI	18593	20	22	39	3	39.4		1	0	0	0	0	CC	NO	16.00	2.00	2.80	Ibuprofen		Moderate	5	4	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
96	RAJMA	19019	22	18	39	0	39		2	1	1	0	0	CC	NO	15.00	1.00	2.50	Ibuprofen		Moderate	4	3	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
97	LALITA	20031	24	17	37	0	37		1	0	0	0	0	CC	NO	20.00	1.00	2.80	Ibuprofen		Moderate	4	3	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	yes	No	incomplete	yes
98	KOMAL	21638	26	16	38	0	38		1	0	0	0	0	CC	NO	19.00	1.50	2.50	Ibuprofen		Mild	1	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
99	JYOTI	21738	30	18	39	0	39		2	0	0	0	1	CC	NO	15.00	1.00	2.50	Ibuprofen		Moderate	6	4	Yes	No	No		Mild	2	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
100	BHAGYAMMA	26343	22	19	40	0	40		1	0	0	0	0	CC	NO	10.00	1.00	2.80	Ibuprofen		Moderate	6	3	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
101	DEVAMMA	42280	26	30	39	4	39.6		3	1	0	1	1	FAP	NO	20.00	1.00	3.00	Ibuprofen		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
102	AKSHATA	43033	22	21	37	1	37.1		1	0	0	0	0	FAP	NO	18.00	1.00	2.48	Ibuprofen		Moderate	4	3	NO	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
103	PAVITRA	43504	25	22	39	2	39.3		2	0	0	0	1	FAP	NO	15.00	1.50	2.70	diclo		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
104	RAJESHREE	43828	30	18	38	4	38.6		2	1	1	0	0	FAP	NO	16.00	1.50	2.50	diclo		Severe	6	4	Yes	No	Superficial Gapin		Moderate	5	Yes	Yes	No	Superficial Gaping		No	No	No	No	Incomplete	yes
105	AISHWARYA	43845	19	17	38	6	38.9		1	0	0	0	0	FAP	YES	25.00	1.00	2.80	diclo		Mild	3	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
106	KOMAL	43856	27	16	40	0	40		1	0	0	0	0	FAP	NO	18.00	1.00	2.70	diclo		Moderate	6	3	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
107	IRAMMA	43861	20	24	37	5	37.7		1	0	0	0	0	FAP	NO	16.00	1.50	2.90	diclo		Moderate	4	3	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
108	ANITA	43955	25	22	38	0	38		5	1	1	0	3	FAP	NO	18.00	1.00	2.80	diclo		Mild	3	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
109	SHASHIKALA	2572	21	23	36	4	36.6		1	0	0	0	0	FAP	NO	18.00	1.50	2.50	Ibuprofen		Moderate	4	3	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
110	REVATI	2968	27	21	40	1	40.1		1	0	0	0	0	FAP	NO	15.00	1.50	2.60	Ibuprofen		Moderate	4	4	Yes	No	Superficial Gapin		Mild	1	Yes	No	No	Satisfactory		No	No	No	No	Complete	no
111	SNEHA	2568	22	22	40	4	40.6		1	0	0	0	0	FAP	NO	17.00	1.00	3.20	Ibuprofen		Moderate	4	4	NO	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
112	AISHWARYA	3108	19	20	37	3	37.4		1	0	0	0	0	FAP	NO	20.00	1.00	2.40	diclo		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
113	ASHWINI	3684	18	22	38	0	38		1	0	0	0	0	FAP	NO	16.00	1.00	2.50	Ibuprofen		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
114	SNEHA	3668	22	17	40	4	40.6		1	0	0	0	0	FAP	NO	18.00	1.00	3.20	Ibuprofen		Moderate	6	3	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
115	KAVITA	3129	28	16	39	0	39		2	1	1	0	0	FAP	NO	20.00	1.00	3.12	Ibuprofen		Moderate	5	4	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
116	MAHANDA	3445	28	20	40	0	40		2	1	1	0	0	FAP	NO	14.00	2.00	3.20	Ibuprofen		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no

117	ANJANA	3394	25	21	39	2	39.3		1	0	0	0	0	FAP	NO	19.00	1.00	3.10	Ibuprofen		Moderate	5	4	NO	No	No		No	0	No	Yes	No	Superficial Gaping		No	No	No	No	Incomplete	yes
118	LAMMBAI	3949	21	22	38	3	38.4		3	1	1	0	1	FAP	NO	16.00	1.50	3.20	Ibuprofen		Moderate	5	4	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
119	KAVERI	4094	24	23	40	3	40.4		2	1	1	0	0	FAP	NO	18.00	1.00	2.62	diclo		Mild	3	4	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
120	AMMITA	3966	21	21	38	6	38.9		1	0	0	0	0	FAP	NO	15.00	1.50	2.82	Ibuprofen		Moderate	6	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
121	BHAGYASHREE	3856	20	21	36	3	36.4		2	0	0	0	1	FAP	NO	18.00	1.00	2.30	Ibuprofen		mild	3	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
122	KALIBAI	4014	23	20	38	1	38.1		1	0	0	0	0	FAP	NO	10.00	1.50	2.70	Ibuprofen		Mild	3	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
123	SAUBAGYA	4513	23	26	38	5	38.7		1	0	0	0	0	FAP	NO	15.00	1.00	3.30	Ibuprofen		Moderate	6	3	No	No	No		Mild	2	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
124	NAGAMMA	4614	24	24	40	4	40.6		1	0	0	0	0	FAP	NO	16.00	1.50	2.89	Ibuprofen		Moderate	4	3	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
125	AMITA	8136	23	23	39	0	39		2	1	1	0	0	FAP	NO	14.00	1.50	2.64	Ibuprofen		Moderate	4	3	No	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
126	TASLEEN	8997	24	17	40	2	40.3		2	1	1	0	0	FAP	NO	17.00	1.50	3.66	diclo		Moderate	5	3	No	No	No		Mild	1	No	No	No	Satisfactory		No	No	No	No	Complete	no
127	VIDYASHREE	9534	24	18	37	5	37.7		2	0	0	0	1	FAP	NO	16.00	1.00	2.40	diclo		Mild	3	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
128	VIDYASHREE	10866	26	19	41	0	41		2	0	0	0	1	FAP	NO	15.00	1.00	3.00	diclo		Mild	3	3	No	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
129	LAXMI	11092	24	17	38	4	38.6		3	1	1	0	1	FAP	NO	10.00	1.00	2.60	Ibuprofen		Mild	1	2	Yes	No	No		Mild	3	Yes	No	No	Superficial Gaping		No	No	No	No	Incomplete	yes
130	ARCHANA	10637	18	21	36	5	36.7		1	0	0	0	0	FAP	NO	13.00	1.50	2.60	Ibuprofen		Moderate	2	3	No	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
131	SUVARNA	13494	23	20	38	5	38.7		3	1	1	0	1	FAP	NO	13.00	1.00	3.20	diclo		Mild	6	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
132	VIDYA	13416	24	22	38	3	38.4		2	1	1	0	1	FAP	NO	12.00	1.00	2.80	Ibuprofen		Moderate	4	3	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
133	VIJAYALAKSHMI	13414	22	18	39	0	39		1	0	0	0	0	FAP	YES	12.00	1.00	2.90	Ibuprofen		Moderate	5	3	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
134	RAJASREE	13406	34	19	36	6	36.9		2	1	1	0	0	FAP	NO	13.00	1.00	3.50	Ibuprofen		Mild	3	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
135	SHANYA	13498	25	14	38	0	38		3	1	0	1	2	FAP	NO	12.00	1.00	2.70	Ibuprofen		Modera	5	3	Yes	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
136	AMBAVVA	13350	28	17	38	3	38.4		2	0	0	0	1	FAP	NO	13.00	1.50	2.80	diclo		Moderate	5	3	Yes	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
137	CHINNAKKA	13343	24	19	38	2	38.3		2	1	1	0	0	FAP	NO	12.00	1.00	2.80	Ibuprofen		Mild	3	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
138	BHARATI	13312	24	15	36	0	36		3	1	1	0	1	FAP	NO	13.00	1.00	3.30	Ibuprofen		Moderate	4	3	No	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
139	AKSHATA	13230	21	14	39	0	39		1	0	0	0	0	FAP	NO	12.00	1.50	3.20	diclo		Moderate	5	4	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
140	KAVERI	13175	24	21	37	0	37		2	1	0	1	0	FAP	NO	10.00	1.00	2.60	diclo		Mild	2	2	Yes	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
141	MEENAKSHI	13060	23	20	39	0	39		1	0	0	0	0	FAP	NO	13.00	1.00	2.50	Ibuprofen		Moderate	5	3	No	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
142	DEVAMMA	13499	22	22	38	0	38		1	0	0	0	0	FAP	NO	12.00	1.00	3.00	Ibuprofen		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
143	MEENAKSHI	13060	23	26	39	0	39		1	0	0	0	0	FAP	NO	13.00	1.00	3.50	Ibuprofen		Mild	3	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
144	REKHA	13016	21	21	40	4	40.6		1	0	0	0	0	FAP	NO	9.00	1.00	3.10	Ibuprofen		Moderate	5	4	No	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
145	SAKKUBAI	13012	20	18	41	4	41.6		1	0	0	0	0	FAP	NO	16.00	1.00	3.04	Ibuprofen		Mild	3	3	Yes	No	Superficial Gapin		Moderate	4	Yes	Yes	No	Satisfactory		No	No	No	No	Complete	no
146	KAVERI	12961	29	16	38	3	38.4		2	1	1	0	0	FAP	NO	12.00	1.50	2.45	Ibuprofen		Moderate	5	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
147	SUREKHA	12955	21	14	39	6	39.9		1	0	0	0	0	FAP	NO	15.00	1.50	3.30	Ibuprofen		Moderate	5	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
148	NARMADA	12901	28	19	40	3	40.4		2	1	1	0	0	FAP	NO	8.00	1.00	2.50	Ibuprofen		Moderate	5	3	No	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
149	SUNITADEVI	12890	18	30	36	3	36.4		1	0	0	0	0	FAP	NO	20.00	1.00	2.90	Ibuprofen		Mild	2	4	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
150	PARVATI	12882	21	21	38	6	38.9		2	1	1	0	0	FAP	NO	12.00	1.50	2.70	Ibuprofen		Moderate	6	3	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
151	RUBINA	12898	28	21	38	3	38.4		3	2	2	0	0	FAP	NO	16.00	1.00	2.91	Ibuprofen		Moderate	6	3	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
152	LAXMI	12832	23	22	40	0	40		1	0	0	0	0	FAP	NO	12.00	1.00	3.40	Ibuprofen		Moderate	4	4	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
153	KAVERI	12839	19	26	37	0	37		1	0	0	0	0	FAP	NO	13.00	1.50	2.90	Ibuprofen		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
154	LAXMI PUJERI	12822	22	17	36	4	36.6		2	1	0	1	0	FAP	NO	12.00	1.00	2.25	Ibuprofen		Moderate	6	3	No	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
155	SARASWATI	12790	20	18	38	4	38.6		1	0	0	0	0	FAP	NO	10.00	1.00	2.50	Ibuprofen		Mild	3	4	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
156	MAHANANDA MATH	12744	21	18	40	3	40.4		2	1	1	0	0	FAP	NO	11.00	1.00	3.68	Ibuprofen		Severe	9	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
157	SWATI	12747	27	15	38	4	38.6		2	1	1	0	0	FAP	NO	12.00	1.00	2.20	Ibuprofen		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
158	AISHWARYA	12708	24	17	39	3	39.4		2	1	1	0	0	FAP	NO	16.00	1.50	3.40	Ibuprofen		Moderate	4	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
159	JAYASHREE	12637	22	18	40	0	40		2	1	1	0	0	FAP	NO	14.00	1.00	2.70	Ibuprofen		Moderate	5	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
160	POOJA	12611	20	19	40	0	40		2	1	1	0	0	FAP	NO	12.00	1.50	3.19	Ibuprofen		Moderate	5	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
161	ISANAT	12540	29	21	39	3	39.4		2	1	1	0	0	FAP	NO	17.00	1.00	2.90	Ibuprofen		Mild	3	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
162	ANITA	12930	26	20	39	0	39		2	1	1	0	0	FAP	NO	13.00	1.00	2.26	diclo		Moderate	5	3	No	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
163	SAVITRI	12507	24	21	40	0	40		1	0	0	0	0	FAP	NO	18.00	1.50	2.42	Ibuprofen		Moderate	5	3	No	No	No		Mild	3	No	No	No	Superficial Gaping		No	No	No	No	Incomplete	yes
164	BHOOMIKA	12463	24	22	39	3	39.4		2	1	1	0	0	FAP	NO	16.00	1.50	2.75	diclo		Mild	2	2	No	NO	NO		Mild	2	NO	NO	No	Satisfactory		No	No	No	No	Complete	no
165	MALLAMA	12424	20	20	38	3	38.4		1	0	0	0	0	FAP	NO	12.00	1.00	3.00	diclo		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
166	BHAGYAVATHI	12375	20	21	38	5	38.7		1	0	0	0	0	FAP	NO	20.00	1.00	2.10	Ibuprofen		Moderate	4	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
167	MAMATA	12394	22	22	40	0	40		1	0	0	0	0	Faa	NO	12.00	1.00	2.60	diclo		Mild	1	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
168	SUNITA	13171	23	18	38	3	38.4		2	0	0	0	1	FAP	NO	16.00	1.50	2.70	Ibuprofen		Moderate	4	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	COMplete	no
169	MAHANDA VINOD	12779	21	22	40	2	40.3		2	1	1	0	0	FAP	NO	10.00	1.00	2.67	diclo		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
170	RAJASHREE	13406	34	17	36	6	36.9		1	0	0	0	0	FAP	NO	13.00	1.00	2.90	Ibuprofen		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
171	SHARANAMMA	13411	28	26	38	0	38		1	0	0	0	0	FAP	NO	12.00	1.00	2.70	Ibuprofen		Moderate	4	3	No	No	No		No	0	NO	No	No	Satisfactory		No	No	No	No	Complete	no
172	VIDYA	13416	21	24	38	3	38.4		2	0	0	0	1	FAP	YES	13.00	1.00	2.50	Ibuprofen		Mild	2	3	No	No	No		No	0	No	Yes	No	Satisfactory		No	No	No	No	Complete	no

173	VIJAYALAKSHMI	13414	22	17	39	6	39.9		2	0	0	0	1	FAP	NO	12.00	1.50	2.70	Ibuprofen		Moderate	6	3	Yes	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
174	VIDYA KABER	13416	24	15	38	3	38.4		2	0	0	0	1	FAP	NO	12.50	1.00	2.30	Ibuprofen		Moderate	5	3	Yes	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	COmplete	no
175	BHAGYASHREE	13483	24	18	39	0	39		1	0	0	0	0	FAP	NO	13.00	1.00	3.10	diclo		Mild	3	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
176	KAMALABAI	13496	30	19	36	0	36		1	0	0	0	0	FAP	NO	10.00	1.00	2.90	Ibuprofen		Moderate	4	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
177	SAVITRI	10697	21	19	42	0	42		2	1	1	0	0	FAP	NO	13.00	1.00	2.30	diclo		Mild	2	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
178	ARCHANA	10637	18	22	38	5	38.7		1	0	0	0	0	FAP	NO	12.00	1.50	2.80	Ibuprofen		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
179	MEGHA	10677	19	20	36	5	36.7		1	0	0	0	0	FAP	NO	13.00	1.00	2.60	Ibuprofen		Severe	8	4	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
180	SUCHITRA	10831	24	18	40	0	40		1	0	0	0	0	FAP	NO	12.00	1.00	3.40	Ibuprofen		Mild	3	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
181	REKHA	13842	23	16	40	0	40		2	1	1	0	0	FAP	NO	12.00	1.00	2.76	Ibuprofen		Moderate	5	3	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
182	SUVARNA	13457	23	17	38	5	38.7		3	1	1	0	1	FAP	NO	13.00	1.50	2.35	diclo		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
183	BHAGYASHREE	13483	24	18	39	0	39		2	1	1	0	0	FAP	NO	12.00	1.00	3.10	Ibuprofen		Moderate	5	4	No	No	No		Mild	3	No	No	No	Satisfactory		No	No	No	No	Complete	no
184	VIDYA	13416	24	30	38	3	38.4		2	0	0	0	1	FAP	NO	13.00	1.50	2.30	Ibuprofen		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
185	VIJAYALAKSHMI	13414	22	26	39	0	39		1	0	0	0	0	FAP	NO	12.00	2.00	2.80	Ibuprofen		Severe	8	5	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
186	RAJASREE	13406	34	24	36	6	36.9		2	1	1	0	0	FAP	NO	13.00	1.00	2.90	Ibuprofen		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
187	SHARANAMMA	13411	28	22	39	0	39		3	1	1	0	1	FAP	YES	12.00	2.00	2.70	Ibuprofen		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
188	SHANAYA	13498	25	22	38	0	38		3	0	0	0	2	FAP	NO	13.00	1.50	3.00	Ibuprofen		Moderate	4	4	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
189	AMBAVVA	13350	28	21	38	3	38.4		2	1	1	0	0	FAP	NO	12.00	1.00	3.39	diclo		Moderate	4	4	No	No	No		Mild	2	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
190	CHINNAKKA	13343	24	18	38	2	38.3		2	1	1	0	0	FAP	NO	13.00	1.50	2.60	Ibuprofen		Mild	2	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
191	BHARATI	13312	24	19	36	0	36		3	1	1	0	1	FAP	YES	12.00	2.00	2.60	Ibuprofen		Modera	4	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
192	AKSHATA	13230	21	16	39	0	39		1	0	0	0	0	FAP	NO	13.00	1.00	3.10	Ibuprofen		Mild	3	4	No	No	No		Mild	3	No	Yes	No	Satisfactory		No	No	No	No	Complete	no
193	KAVERY	13175	24	19	37	0	37		2	1	0	1	0	FAP	NO	12.00	1.50	2.58	diclo		Mild	3	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	incomplete	yes
194	REKHA	13016	21	14	40	4	40.6		1	0	0	0	0	FAP	NO	18.00	2.00	3.00	Ibuprofen		Severe	8	4	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
195	SAKKUBAI	13012	20	16	41	4	41.6		1	0	0	0	0	FAP	NO	12.00	1.50	3.30	Ibuprofen		Mild	3	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
196	KAVERI	12961	25	21	38	3	38.4		2	1	1	0	0	FAP	NO	13.00	2.00	2.45	Ibuprofen		Mild	3	2	Yes	No	No		Mild	2	No	No	No	Satisfactory		No	No	No	No	Complete	no
197	SUREKHA	12955	21	22	39	6	39.9		1	0	0	0	0	FAP	NO	12.00	1.50	3.30	Ibuprofen		Moderate	6	2	No	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
198	NARMADA	12901	28	32	40	3	40.4		2	1	1	0	0	FAP	NO	15.00	1.00	2.80	Ibuprofen		Mild	3	3	Yes	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
199	SUNITADEVI	12890	18	21	36	3	36.4		1	0	0	0	0	FAP	NO	12.00	1.00	2.90	Ibuprofen		Severe	7	4	Yes	No	No		No	0	No	No	No	Satisfactory		No	No	No	No	Complete	no
200	PARVATI	12882	21	15	38	6	38.9		2	1	1	0	0	FAP	NO	13.00	1.00	2.70	Ibuprofen		Moderate	6	4	No	No	No		Mild	2	No	Yes	No	Satisfactory		No	No	No	No	Complete	no