ORIGINAL ARTICLE

Our experience of Neonatal Circumcision under Local anaesthesia at Avicenna Hospital and Medical College Lahore

KHALID MAHMOOD NIZAMI, M. ZAHID AKBAR CHOHAN FATIMA AHMAD, *MAHANMOOD ALAM, M. FAKHER*

ABSTRACT

Aim: To highlight that this method of circumcision is quick and safe. The use of bone cutter as a clamp for circumcision in neonates of 10 days to 28 days of ages still safe in experienced hands.
Study design: Prospective study
Place & duration of study: Two years from Jan.2013 to Nov.2014. Avicenna Hospital, Lahore
Methods: This study includes prospective analysis of the subjects, who were treated in surgical department of Avicenna Hospital Lahore. Although 410 total circumcisions were carried out during this period ranging from 10 days of age to 25 yrs of age by using different techniques but we included only neonates of age from 10 days to 28 days in which circumcisions were carried out with bone cutter as a clamp under local anaesthesia and without stitches. All neonates below 10 days and children above 1 month were excluded from this study. But in this study the minor bleeding was seen in only (1.9%). Low complication rate was due to the technique and the pre-operative assessment of neonates which was treated immediately by change of dressing only. No other complications were seen. The collected data was entered into SPSS version 25.0 and were analyzed accordingly applying descriptive statistics e.g. mean, frequency and percentages.
Keywords: Neonatal circumcision, local anaesthesia,

INTRODUCTION

Circumcision (in Latin Circumcido, to cut around) is one of the most common surgical procedures performed on males, in which the foreskin (prepuce) of the penis is removed. The origin of circumcision came from ancient Egypt, which was performed to improve male hygiene. Then, religious circumcision was part of Abrahamic covenants with Jehovah. Religious male circumcision is considered a Commandment from God in Judaism but in Islam, it is considered to be a Sunnah[1]. It is also customary in some Christian churches and it became popular in western cultures in the mid-19th century as a preventive health measure[2 3]. In the present study, we emphasized the timing, benefits, complications, and the salient steps of circumcision technique used. An estimated one million circumcisions are performed each year in the United States. The prevalence of circumcision has increased from 34% in 1932 to 60% in 1935. In 1960, more than 80% of men in United States were circumcised. However, after 1970, when the American Association of Pediatrics (AAP) stated it was not a medical necessity[4], the prevalence started to decrease, and in 1992, it was estimated that only 77% of men were circumcised. Despite AAP policy, according to the World Health Organization (WHO), about 30% of men are circumcised, of whom 70% are Muslim[5,6]. Our aim was to study our method of using bone cutter prospectively.

Department of Surgery, Avicenna Hospital, Lahore
Correspondence to Prof. M. Zahid Akbar chohan, email: dr.zahidakbar@gmail.com Cell: 0320-0518152

Methods for Neonatal Circumcision: There are four techniques for neonatal circumcision: the dorsal slit method, the Plastibell method, the Mogen clamp method and the Gomco clamp method. The use of Clamp is associated with less pain, no or minimal bleeding and greater protection of the glans. The Plastibell method is widely used around the world and has been acceptable in developing countries. However, the use of incorrect techniques can cause many complications. This method is recommended for areas where the practice of circumcision is routine. The Mogen clamp is used widely in North America and its complications in neonates are less frequent than other methods. Unlike the Plastibell, the clamp is reusable and precautions are needed to ensure sterility. The Gomco clamp has different bell sizes and so is suitable for children of different ages[6]. In this study we used bone cutter as a clamp.

MATERIALS AND METHODS

This hospital based descriptive study was carried out at Avicenna Hospital, Lahore from January 2013 to November 2014. This study includes prospective analysis of patients, who were treated in surgical department. A total of 410 neonates were recruited in this study. All neonated below 10 days and

children above 1 month were excluded from the study.

Data Collection Procedure: After approval from ethical committee, A total of 410 circumcisions who fulfill the inclusion and exclusion criteria were carried out during this period ranging from 10 days of age to 25 yrs of age by using different techniques but we included only neonates of age from 10 days to 28 days in which circumcisions were carried out with bone cutter as a clamp under local anaesthesia and without stitches. Informed consent was obtained and patients demographic information (name, age, sex, height, weight, and contact) were recorded. All neonates below 10 days and children above 1 month were excluded from this study. Data was collected by research proforma after detailed counselling of the patients about the purpose and method of the study; a written consent was also obtained. The collected data was entered into SPSS version 25.0 and were analyzed accordingly applying descriptive statistics e.g. mean, frequency and percentages.

RESULTS

In this study the minor bleeding was seen in only (1.9%). Low complication rate was due to the technique and the pre-operative assessment of neonates which was treated immediately by change of dressing only. No other complications were seen.

DISCUSSION

Neonatal circumcision is performed on healthy neonates at least 10 days to 28 days of age. Circumcision during infancy, particularly in the neonatal period, has some advantages including low frequency of complications due to the simple nature of procedure and the healing capabilities of the newborn. Another major advantage is that suturing is not usually necessary if the procedure was done in the neonatal period as compared to the post-neonatal period. One study in the US found that no complications were seen with circumcision during first month of life, but significant post-operative bleeding was seen in 30% of infants aged 3 to 8.5 months[8]. Another study showed that painless circumcision is possible in almost all newborns if it is performed during the first week after birth[9]. In this study post-operative minor bleeding was seen in 6(1.9%) neonates which was treated by changing the dressings only, without any surgical procedure. Circumcision may lead to complications, which range from minor to severe. The median frequency of any complication is 1.5% (range 0.1-35%)[4,7,8]. The majority of complications are bleeding, local infection, followed by unsatisfactory cosmetic results (insufficient or excessive foreskin removal). The wide variation in rates of complications is likely due to various factors such as age at the time of circumcision, expertise of the health care provider and the sterility of conditions under which the procedure was performed[11]. In this study the cosmetic results were satisfactory. Bleeding is the major complication of circumcision[4]. It occurs from injury to frenular artery or dermal cut edge, although in most of the cases bleeding is minimal and can be controlled by compression. However, if bleeding continues or a hematoma is formed, it is necessary to suture the specific bleeding vessel or explore the wound.

It is critical to take family history of bleeding disorders into account before considering the procedure. Some study showed no difference in the risk of bleeding based on technique chosen to perform the circumcision (12).But in this study the bleeding was seen in (1.9%) of neonates only because of technique and the pre-operative assessment of neonates.

Infection of the fresh circumcision wound has been a fairly common complication. It is usually mild and caused by a local inflammatory change, which resolves with topical antibiotic. Good postoperative care to prevent infection and prophylactic antibiotics are not indicated but when infections occur, it should be diagnosed and treated promptly because the immune system in newborns is relatively compromised and untreated infection scan cause serious problems[8]. No infection was seen in our neonates observing after 48 hr when we remove the dressing.

Meatal stenosis or urethral stricture is a narrowing of the opening of the urethra at the external meat us and is an uncommon complication of circumcision. It likely occurs in response to chronic irritation of the meat us and may be a longer-term complication of circumcision. Meatal stenosis does not require treatment, but in a more severely affected infant, in whom deflection of the urinary stream, dribbling of urine, dysuria or urinary frequency occurs as a result of stenosis, meatotomy may be recommended after pediatric urologic consultation[10]. Topical use of a lubricant jelly after circumcision in boys may reduce the risk of meatal stenosis[13]. In this study no meatal injury seen.

Erythema and inflammation of the urethral opening is known as meatitis. It is a common post circumcision finding, but usually resolves as the epithelial surface of the glans thickens in response to irritation. Dressing with petroleum jelly or antibiotic ointment is a technique to minimize irritation and prevent this problem[4].

If insufficient foreskin is removed, the resulting appearance may be unacceptable and these cases should be referred to pediatric urologist to determine the need for circumcision revision. Some authors report that 0.5%of boys required a procedure to revise the circumcision (14).In this study no neonate required revision of circumcision

If the glans is inadequately separated from the inner prepuce prior to excision, it is possible to draw skin from the penile shaft up into a circumcision device and remove more. Excessive foreskin removal may result in a denuded penile shaft. In many cases conservation therapy results in adequate healing by secondary intention[14]. No such complication was seen in this study.

Circumcision can cause pathologic or secondary phimosis (an inability to retract the foreskin), especially when it is performed on a boy with a penile web or buried penis, the circumferential edge can pull together in purse-string fashion and result in the penis being trapped under circumcision site. Closely monitoring and waiting is sufficient in some cases but surgical correction may be necessary in others (4)."Neonates, just like adults, do feel pain". Newborns experience pain during circumcision and evidence of the need for pain control is strong. Although anesthesia was not provided in the past, safe and effective methods of pain control exist and should be provided to all infants undergoing the procedure[15,16]. In this study we use 2% plain lidocain as local anaesthetic as ring block at the root of penis in all neonates.

CONCLUSION

Male circumcision is one of the oldest and most common surgeries performed in the world and the majority of male neonates are circumcised based on religious and cultural practice, not for any medical reasons. The clinical benefits of circumcision include reduced risk of UTIs (especially in early infancy), STDs including HIV, phimosis and penile cancer. The most common complication of circumcision are infection, bleeding and failure to remove enough foreskin. In general, complications are minor and treatable, but a high frequency of complications are seen when the procedure is undertaken by inexperienced providers, non-sterile environments or with inadequate equipment and supplies. Thus, we recommend to parents that they should find an experienced practitioner. To summarize; neonatal male circumcision is generally a rapid and safe procedure when performed in clinical setting under aseptic conditions by experienced practitioner.

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