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A PROSPECTIVE ANALYSIS OF CIRCUMCISIONS USING THE PLASTIBELL RING

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ABSTRACT

Circumcision is one of the oldest and most popular surgical procedures performed today. It can be done using a variety of approaches; gomco , smartklamp, plastibell, flap method, etc. The clamp principle is how the plastibell operates.

Methods: This prospective study lasted three years and was conducted at private clinics in Baghdad and Ajman. In the process, the parents received counseling. In order to uncover factors that might harm the outcome, the youngsters were evaluated. The newborns' ages, symptoms, Plastibell size, and problems were noted.

Results: A total of 200 newborns, babies, and kids participated in the study. One day to six months old was the age range, and 60% of circumcisions were performed within the first 30 days of life. Religion was always cited as a reason for circumcision (n = 245, 100%). The Plastibell size used ranged from 1.1 to 1.5, and complications occurred in 38 of the kids, or 19% of the total. Prepuce edema and a retained Plastibell ring were the most frequent complications, both had complicated 4% of cases for each.

Conclusion: It can be considered that Plastibell circumcision is a healthy technique with minimum complications in expert hands and a good alternative to the open technique.

Keywords: Complication, Circumcision, Indication, Plastibell, Safety

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INTRODUCTION

In addition to being a surgical operation with clear dangers and advantages, circumcision is a cultural and religious tradition. [1] In circumcision, the skin fold that normally covers the glans penis is removed. Although there is no universal agreement among experts regarding the procedure's origins, some have proposed that it probably began in Egypt around 15,000 years ago and then spread over the globe as a result of prehistoric human migrations. Some of the earliest records of circumcision date to at least 6000 BC and are from wall sculptures and Egyptian mummies uncovered in the 19th century. [2] Can be considered the Gomco clamp (67%), the Plastibell device (19%), and the Mogen clamp (10%) are the three devices that have been used the most frequently to date [3]. In 1950, Hollister created the Plastibell Circumcision device, a clear plastic ring with a handle for male_circumcision with a deep groove that runs circumferentially around the ring. Even though it is straightforward, utilizing properly sized bells, thorough aseptic methods, firmly tied ligatures, and close postoperative follow-up are crucial to reducing the emergence of postoperative problems. [4]

The purpose of this study is to review the literature on Plastibell circumcision and assess its indications and safety.

METHODS

This three-year prospective study was conducted in two private clinics in Baghdad and Ajman. Parents received advice about the operation. To find any conditions that might have a negative impact on the outcome, 200 neonates and babies were evaluated. These included jaundice, hypospadias, epispadias, bleeding diseases in the family history, and other congenital defects that can have an impact on the course of outcome. The newborns' ages, symptoms, Plastibell size, and problems were documented.

Surgical method:

The patient was positioned supine with the assistance of holding the legs apart while the genital area was cleaned with antiseptic. After that, the patient was draped, and a dorsal penile nerve block was performed using 0.5% lignocaine in a 2ml syringe at the root of the penis at the hours of 1 and 11. The prepuce was opened up with curved artery forceps, and the possible space between the glans and the prepuce was also opened up with curved artery forceps.

After retracting the prepuce to the corona, the glans were examined, the smegma was cleaned with a dry piece of gauze, and the inner portion of the prepuce was separated from the glans.

Using straight artery forceps, the prepuce was crushed at the 12 o'clock position. A dorsal slit was made on the crushed skin to its proximal limit, exposing the glans, when the clamp was released.

The slit prepuce was dragged over the Plastibell ring, held in place with a hemostat placed over the Plastibell ring handle, and a Plastibell of the proper size was pressed over the glans. A vicryl 2-0 suture was tied over the prepuce's skin to fit closely around the Plastibell ring's groove. The handle of the Plastibell is then cleanly severed from the prepuce distal to the tie using a number 15 blade. The patient is given oral paracetamol and topical gentamycin ointment following surgery. After 8 +/- 3 days, the Plastibell typically slips off, exposing the glans.

RESULTS

A total of 200 newborns, babies, and kids were involved in this study. One day to six months old was the age range. 60% of circumcisions were performed within the first 30 days of life.

Figure 1. The Plastibell ring comes in sizes ranging from 1.1 cm to 1.5 cm. The most popular size was 1.2 cm (42%) and the second most popular was 1.3 cm (35%). 1.5 cm (1.5%) was the least popular size. (figure 2). The average length of time for Plastibell separation was 8 +/- 3 days, and this length of time was connected to the kids' ages. The time it takes for the plastic piece to fall off decreases when the boys' age is younger. Given that this study was carried out in a Muslim community, all of the circumcision cases had religious justifications. Complications were recorded in 19 % of cases (38 cases), plastibell ring retention and edema of the prepuce were the commonest recorded complications both occurred at 4% of cases,hemorrhage and adhesion were recorded in 3% of cases for each, slipping of ligatures and mild infections both occurred in 2% of cases while retention of urine was recorded in 1% of cases included in the study.(table 1).

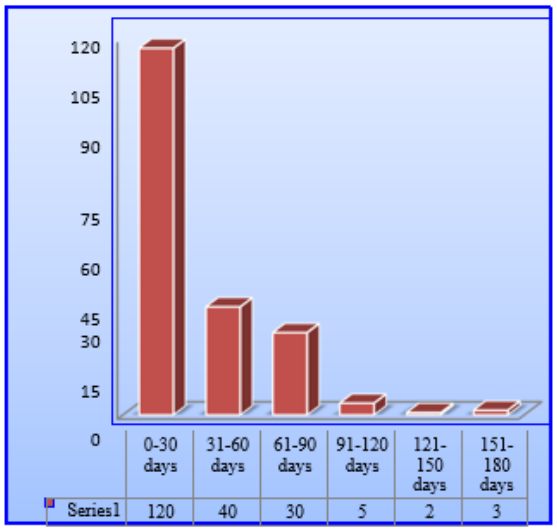

Figure 1: Age range of kids who underwent plastibell circumcision.

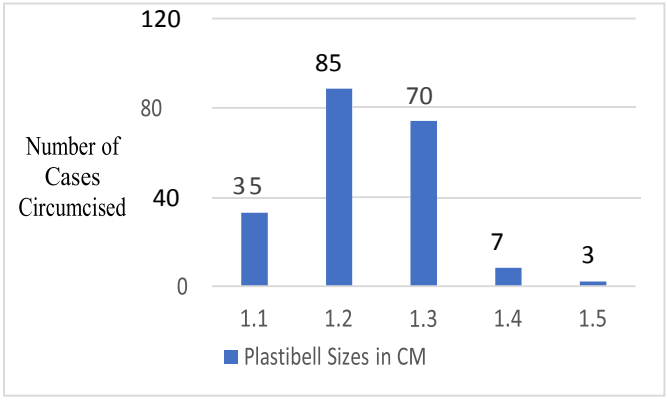

Figure 2: Plastibell sizes (cm) utilized in 200 cases of circumcision

Table 1 lists the complications that were seen in 38 out of 200 patients.

Complication	Number of cases (%)
Hemorrhage	6(3)
Slippage of ligature	4(2)
Retention of urine	2(1)
Mild Infection	4(2)
Plastibell® retention	8 (4)
Adhesions	6 (3)
Edema of Prepuce	8 (4)

DISCUSSION

The newborn period is the most common time for circumcisions. As 60% (120 instances) of the circumcisions were carried out at this time, our study represents this reality. Bioku et al. found that 61.2% of boys received their circumcisions during the second week of life in a multicenter study, Al-Marhoon et al. highlighted that 92% of circumcisions were performed in the newborn age group (5, 6).

We discovered that 1.2 cm (42.5%) was the most often deployed plastibell size. while 1.5cm was the least commonly used ring (1.5 %).These results are different from those reported by Bioku et al in a

multicenter study were most common size used was 1.3cm (45.7%) and least common was 1.6cm (0.4%).(6)

In this region of the world, religion continues to be the primary justification for circumcision. 100% of circumcisions in this study were performed for religious reasons. This is a common observation in societies with a high religiosity, where circumcisions are frequently performed for religious reasons without medical care. (7). Due to the fact that practically everyone in our society has been circumcised since childhood, there are very few medical conditions that call for circumcision as a treatment. The medical justifications for circumcision include the avoidance of penile cancer, the avoidance of HIV and other sexually transmitted infections, as well as the avoidance of urinary tract infections.Balanitis xerotica obliterans, phimosis, paraphimosis, balanoposthitis, and balanitis.(8,9)

Retained Plastibell and prepuce edema were the most frequent complications in this study, followed by bleeding and postoperative adhesions. Mild infections and ligature slippage were other problems, in contrast to the literature, which indicates that hemorrhage is the most frequent event (4,10,11).

The rate of infection (2%) is more than that reported by Seyed Abdollah Mousavi et al(1%) and Carolina Talini et al(1.2%) but it is less than the rate of infection in conventional circumcision reported in literature(4%-14.9%).(4,11)

In a nine-year assessment of Plastibell circumcisions, Palit et al. discovered that bleeding and ring-related issues were the most frequent side effects (1).

The most frequent problems in the study by Moosa et al. were proximal migration, hemorrhage, localized superficial infection, and delayed separation of the ring (ring complication) (12). Even though the issues upset the parents, they were simply resolved and had no lasting impact. Adequate parent education on newborn care, close monitoring, and solid technical proficiency with the Plastibell device are all things that help prevent negative outcomes.

Complication of Penile stenosis is not reported in our study but study done by Sajid Razzaq et al, its rate is 22.8% (10). The dreadful complication of urethral injury reported in literature by Okechukwu Hyginus Ekwunife et al (0.7%) was not observed in our study (13).

Plastibell retention was managed by application of a lubricant gel and smooth retrieval of the ring, prepuce edema treated conservatively with anti-inflammatory ointments, bleeding from the skin margins and slippage of ligatures was solved by double vicryl Sutures should be tied so that they are tightly proximal to the Plastibell ring's groove for improved hemostasis and to prevent slippage. Simple adhesion management was done by blunt breakdown, mild superficial infections were treated by application of simple local antibiotic creams.

The Plastibell device was shown to be a satisfactory and acceptable method for circumcising children in a randomized experiment by Fraser et al utilizing the Plastibell device and traditional dissection method (14)

CONCLUSION

The primary reason for circumcision was a religious requirement for ritual circumcision. The Plastibell method of circumcision is a straightforward process with certain potential problems, but it is safe when carried out by individuals who have received the necessary training. In addition to neonates, elderly people can safely undergo the procedure.

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