

# Circumcision: Experience at a Private Hospital in Jos, Nigeria

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## ABSTRACT

**Background:** Most circumcisions in our environment are carried out in children for religious and cultural reasons. The PlastiBell device has been used for several decades, though some complications have been associated with its use. **Aims and Objectives:** This study examines the safety and acceptability of the PlastiBell device, which was used in circumcision in the majority of patients studied. **Materials and Methods:** Fifty consecutive patients, who had circumcision at a private medical facility in Jos, Nigeria, over a 2 year period, were reported. Their ages, method of circumcision, size of PlastiBell device used, incidence of complications and acceptability of procedure to parents were documented. **Results:** In this study, all patients below 42 days old had their circumcision done with the PlastiBell device. Complications seen with this device included hemorrhage in one patient following a slipped out device. In 49 (98%) of the patients, the mothers were satisfied with the outcome of the procedures. **Conclusion:** The PlastiBell device can be safely used for circumcisions in children below 42 days old.

**KEYWORDS:** Circumcision, PlastiBell device, prepuce

## INTRODUCTION

Circumcision refers to the surgical removal of the prepuce, the most distal part of the foreskin on the penis to expose the glans penis. It is the most common surgical procedure in male neonates. In our environment, the majority are carried out for religious and cultural reasons. Other indications include, phimosis, paraphimosis and balanitis xerotica obliterans.<sup>[1]</sup> Sometimes it is also redone when outcome from previous procedure is found unacceptable by parents. Male circumcision is reported to reduce the chances of developing sexually transmitted infections including, human immunodeficiency virus.<sup>[2,3]</sup> It has also been reported to reduce the risk of penile cancer, cancer of the cervix in female partners as well as to reduce urinary tract infections.<sup>[2-4]</sup> It is contraindicated in patients with bleeding disorders, severe infections around the prepuce and in the presence of hypospadias when the prepuceal skin may be required for subsequent reconstruction.

The majority of circumcisions in children are carried out either by using the PlastiBell device or by surgically cutting off the prepuceal skin and then apposing with a suture, the cut edges

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**DOI:**  
10.4103/1117-6806.111494

of the inner and outer layers of the prepuceal skin. There have been reports of serious complications arising from the use of the PlastiBell device.<sup>[5,6]</sup> Hence, the need for the description of the experience with circumcision in this women hospital that is involved in deliveries, with the majority of parents requesting circumcision.

## AIMS AND OBJECTIVES

This study sought to describe the characteristics of patients presenting for circumcision at a private medical facility. The author equally describes the methods of circumcision employed and examine the safety of these methods and the acceptability of the outcome to the patients' parents.

## MATERIALS AND METHODS

The study included 50 consecutive patients circumcised between June 2010 and October 2012. It was a prospective study and data on the age, technique of circumcision and size of PlastiBell device used, as well as incidence and management of complications, and acceptability of outcome to parents was recorded. The procedures were explained to the parents and informed consent for the procedure obtained.

The procedures were carried out in the theater by a consultant surgeon. A pre-sterilized circumcision pack was obtained consisting of three small artery forceps, a pair of scissors, sponge holding forceps, a pack of gauze and a galliport containing cetrimide. The appropriate size of PlastiBell device was also

obtained and full aseptic theater protocol was observed. The baby was then placed in supine position, restrained by the nurse and the penis cleansed with cetrimide. The prepuce was held at 3 and 9 o'clock positions with two pairs of artery forceps and the adhesions beneath the prepuceal skin gently broken down with the third pair of artery forceps. The dorsum of the prepuce at 12 o'clock was gently clamped in artery forceps for 10s and then slit with the scissors. The prepuce was then retracted and the urethral opening confirmed to be normally sited. The PlastiBell device was then inserted over the glans and the prepuceal skin pulled over the device. The ligature is then tied over the prepuceal skin and on the PlastiBell device and the excess skin cut just distal to the edge of the device. The site was then checked for any bleeding and the patients were then cleaned up and returned to their mothers to be pacified by breastfeeding. The whole procedure lasts 5-10 min. The mothers were told that the device should fall off within 2-3 days of the procedure and advised to return immediately in the event of any abnormalities including bleeding, swelling, undue crying of the child, inability to pass urine or retention of the PlastiBell device beyond the 2<sup>nd</sup> day post-circumcision.

## RESULTS

Fifty patients were circumcised over the period with ages ranging from 7 days old to 4 years. Mean age was 44 days  $\pm$  202 days. Forty-eight (96%) of the patients were between 8 and 28 days old. The PlastiBell was used in all the children except the 4 year old. All the circumcisions were for religious and cultural reasons while one patient (2%) was a 4 year old brought in by his parents for re-circumcision [Table 1].

PlastiBell sizes range from 1.1 cm to 1.7 cm and could be used for various ages. In this study, the 1.2 cm size was used in 30 (60%) of the patients, 1.3 cm size in 18 (36%) of the patients and 1.4 cm size in 1 (2%) patient. The 4-year-old for re-circumcision had redundant prepuce cut and suturing carried out under general anesthesia using a face mask.

In one patient, the device slipped off within 2 h of the procedure with resultant bleeding. He had suturing carried out to arrest the bleeding but the circumcision was already adequate. In 1 (2%) patient, the mother felt there was still redundant skin after the

procedure. In 49 (98%) of the patients, the mothers were satisfied with the outcome of the procedures.

## DISCUSSION

The PlastiBell is a simple device for circumcision in children. In this study, the only major complication observed was hemorrhage within 2 h of circumcision in 1 (2%) patient who was 7 days old. The 1.2 cm ring used in this child fitted loosely and came off shortly after the procedure. Though, this was really unusual due to our practice of making a really tight surgeon knot with a double throw on the first tie, this may have resulted from a poor fit between the PlastiBell device and the glans penis. Lazarus, *et al.*,<sup>[7]</sup> reported bleeding as the most common complication of PlastiBell circumcision advocating close attention to ensuring that the ligature is sufficiently tightly tied to prevent bleeding. They equally advise choosing the correct size of PlastiBell noting that a too-small fit can cause tissue strangulation and necrosis whereas using one that is too large may result in too much foreskin being removed and consequent penile denudation.<sup>[7]</sup>

Several complications have been associated with the use of the PlastiBell device. These include, proximal migration of the bell on to the distal penile shaft causing circumferential compression, loss of penile skin, or persistent disfigurement of the glans penis, necrotizing fasciitis and rupture of bladder due to urinary obstruction by the PlastiBell device.<sup>[4]</sup> Extensive skin loss, urethrocutaneous fistulae and partial necrosis of the glans penis all occurring from prolonged retention of the ring have been reported.<sup>[6]</sup> None of these were seen in this study. However, 1 (2%) patient was brought in on the 2<sup>nd</sup> day after circumcision with a complaint of swelling. The ring was found to still be in place and quite tight around the glans. The device and the string were removed and there was no problem subsequently. The results are similar to the findings of Manji<sup>[8]</sup> who reported <3% of infants with minor remediable complications associated with the use of the PlastiBell device for circumcision. This emphasizes the need for proper education of the mothers on observation for swelling or excessive crying after the circumcision. In this study, the patients were asked to return if the PlastiBell device had not fallen off after 3 days. This facilitates early identification of patients in whom the device may be tight around the glans. However, when these patients are seen after the 3<sup>rd</sup> day, and there is no swelling, the device is left and invariably would usually fall off before the seventh post-operative day.

## CONCLUSION

Circumcision can be safely practiced in a private medical facility by adequately trained personnel. The PlastiBell device can be used safely in children aged 42 days and below. It allows quick circumcision. However, appropriate sizes of the device must be used and the mothers must be educated on the need to immediately return whenever swelling is observed or the device has not fallen off by the third post-operative day.

**Table 1: Age distribution of 50 patients circumcised in the study**

Age (days)	Frequency	Percentage
1-7	1	2
8-14	29	58
15-21	15	30
22-28	3	6
29-35	0	0
36-42	0	0
43-49	1	2
1457-1463	1	2
	50	100

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**How to cite this article:** Nnamonu MI. Circumcision: Experience at a private hospital in Jos, Nigeria. *Niger J Surg* 2013;19:1-3.

**Source of Support:** Nil. **Conflict of Interest:** None declared.

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