



## PLASTIBELL METHOD FOR CIRCUMCISION IN PEDIATRIC PATIENTS

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**ABSTRACT**

**Background:** Plastibell technique is a well-proven paediatric method of circumcision with respect to the results and complications. Although, literatures abound on its wide acceptability, there are few studies on procedure and complications of plastibell circumcision. The objective of this study was to evaluate the cases of circumcision by Plastibell device in tertiary care centre.

**Methods:** This is a prospective study of 30 male children less than 10 years who underwent Plastibell circumcision in the Department of Surgery at L G HOSPITAL AHMEDABAD during MAY 2017 to January 2019

**Results:** Out of the total 30 cases, the successful rate of Plastibell circumcision without any complication was recorded in 25 (83.33%) cases while remaining 5(16.66%) cases developed minor complications

**Conclusions:** The classical plastibell circumcision has good safety profile with few easily correctable early complications as well as less operative time and less bleeding.

**KEYWORDS :** Plastibell ; circumcision

**INTRODUCTION**

Circumcision is one of the oldest and the most common surgical procedure in children worldwide. The practice of circumcision is thought to be at least 15,000 years old.<sup>1</sup> Approximately one third of males worldwide are circumcised.<sup>2</sup> However, the practices and procedures of circumcision, and complications of various procedures are not well documented.

The goal of circumcision is to remove enough shaft skin and inner foreskin to uncover the glans.<sup>3</sup> As with any surgical procedure, there are risks associated with circumcision and the principles common to all methods of circumcision to reduce risks are: asepsis adequate but not excessive excision of the outer and inner foreskin haemostasis and cosmetic appearance.<sup>4</sup>

Various techniques are available for circumcision, namely Plastibell, Gomco clamp, Mogen clamp, metal shield, accu-circ, alisklamp, ismail clamp, kirve clamp, bone cutter method, dorsal slit (open cut) method etc.<sup>5</sup>

Since it was first reported in 1956,<sup>6</sup> Plastibell circumcision (PC) has gained widespread use.<sup>7-10</sup> Plastibell method has become quite popular and appears to be more preferable procedure because it is quick and easy technique, causes minimal tissue trauma and minimal blood loss. It also provides good cosmetic results.

This study was thus undertaken to document experience with the use of Plastibell device for circumcision in pediatric patient of general surgery department at L G Hospital, Ahmedabad.

**METHODS**

This is a prospective study of 30 male children less than 10

years who underwent Plastibell circumcision in the Department of Surgery at L G HOSPITAL AHMEDABAD during MAY 2017 to January 2019.

Children from age group upto 10 years were included in the study. Children who had congenital abnormalities like hypospadias, de-ranged coagulation profile and any other medical illnesses were excluded. Pre-op consent was taken from the parents after explaining them the benefits and possible complications of the procedure.

Under Aseptic precaution, local anesthesia was given in the form of ring block with 0.5% lignocaine (1 mg/kg) applied to the base of the penis, or the procedure was done under short general anesthesia.

The Plastibell device is a plastic ring with handle (figure 1) and it has a deep groove running circumferentially.

Adhesions present between glans and foreskin were divided with an artery forceps.

Then the foreskin was longitudinally cut at 12 o'clock; prepuce retracted and glans penis exposed. The Plastibell comes in multiple sizes ranging from 1.1 to 1.7. Sizes between 1.1 and 1.5 were utilized in our study.

An appropriate size of Plastibell device which snugly fits in two third of glans penis was selected. Plastibell device was then placed on the glans and the foreskin was brought over it. A linen thread ligature which comes with the device was tied firmly around the foreskin, crushing the skin against the groove in the Plastibell. The handle of the ring was broken and

the excess skin protruding above the groove was excised. The compression of foreskin against the underlying plastic shield by ligature will cause necrosis of the foreskin and the ring will fall within 3 to 7 days leaving a circumferential wound that will heal within few days.

All children were discharged on same evening on oral analgesics and local antibiotic ointment. On discharge; parents were given specific instructions on care of the device.

All patients were called for follow-up in OPD on 3rd POD and on day of separation of the Plastibell and were told to return earlier, in case of any complication.

The patients in which the ring was not separated within 14 days were called for follow-up and the ring was removed by cutting the ligature and excising necrotic foreskin.

**RESULTS**

In our study, 30 cases of Plastibell circumcision fulfilling the inclusion criteria were included and analyzed. The main indication for circumcision in this study was phimosis (n=28;93.33%). The average age of patient was 4.5 yr.

The mean weight was 16 kg (12.2kg to 20 kg). The model Plastibell size was 1.3 cm (n=22; 73.33%)(Chart-2). The mean surgical time was 10±2 mins. The mean number of days for Plastibell to separate was 5.2 days with a range from 3 days to 12 days for all children; Plastibell ring separation was earlier in early age groups.

Out of the total 30 cases, the successful rate of Plastibell circumcision without any complication was recorded in 25 (83.33%) while remaining 5(16.66%) cases developed some minor complications.

The most common complication was delayed separation of the ring recorded in 2 cases, other complications included-bleeding in 1 case, localized superficial infection in 1 case, and inadequate skin removal occurred in 1 case. (Table 1)

**CONCLUSION**

- The main indication for circumcision in our setup was phimosis.
- Plastibell circumcision method has less operative time and less bleeding.
- Though complications were present, they were few and could be managed easily.
- The Model size of 1.3cm was ideal for most patients.
- Plastibell circumcision is safe in pediatrics.

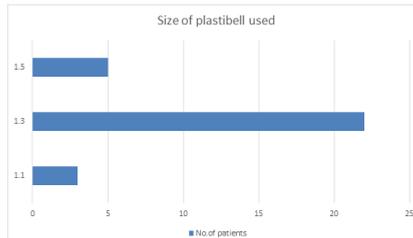
**DECLARATIONS**

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**Conflict of interest:** none

**Table 1:**

complications	NO. OF PATIENTS
Delayed separation of ring	2
Bleeding	1
Infection	1
Inadequate skin removal	1
Proximal migration of ring	0
Total	5



**Figure 1: Plastibell device with suture**



**Figure 2: Plastibell device applied on penis**



**Figure 3: After separation of plastibell ring**

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