

Research Article

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## Circumcision with plastibell device

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### ABSTRACT

**Background:** In Muslims and Jews circumcision is common. Most of the time it is on religious ground. Circumcision involving plastibell device is less frequently employed. The aim of this study was to know the effectiveness of plastibell circumcision in children of younger than 2 years.

**Methods:** It was a prospective study conducted from January 2014 to march 2015 at KBN Teaching Hospital and in private hospital. All the babies with age ranging from few days to two years who underwent circumcision using plastibell device, as a day case procedure were included in the study. Patients were followed up for one month in order to note the complications and final outcome of circumcision.

**Results:** Circumcision using plastibell device was performed in 170 babies. 80 were neonates and 90 babies were above one month and below two year. Significantly fewer complications were noted in neonate compare to older babies.

**Conclusions:** Circumcision using plastibell device is safe and easy method especially in younger age group with lesser complication rate.

**Keywords:** Circumcision, Plastibell device

### INTRODUCTION

In Male circumcision we remove the redundant foreskin of glans. Circumcision is a common and ritual practice among Muslims and Jews. The benefits of circumcision have been recognized in various studies. There is a lower risk of penile cancer and cancer of the cervix uteri in female sex partners.<sup>1-4</sup> The incidence of urinary tract infections is also decreased in circumcised population.<sup>5,6</sup> There is significant drop in sexual transmitted diseases and HIV prevalence in circumcised groups.<sup>1-5</sup> Commonly in developing countries religious circumcision is done by quacks which is dangerous, with high complication rate of bleeding and trauma to the glans. The technique of choice remains controversial.<sup>7,8</sup> Circumcision involving plastibell is safe and easy method especially in younger age group i.e. neonates and infants, involving only local anesthesia with few associated complications.<sup>9,10</sup>

### METHODS

It is a prospective study conducted from January 2014 to march 2015 at private hospital. All the babies with age ranging from few days to two years who underwent circumcision using plastibell device, as a day case procedure were included in the study. Patients were followed for one month in order to note the complications and final outcome of circumcision. All the children were healthy, without any medical or urological abnormality. The children were divided into two groups on the basis of age, i.e. neonates and 1month to 2year group. Results of the two groups were tabulated and analyzed. All childrens were not fed 2hour before surgery and 1 hour after surgery. After preparing the operating area with povidine iodine (10%) solution, a dorsal nerve block was administered using 0.2 ml/Kg of 2% lidocaine with a fine gauge needle (insulin needle). A plastic protective bell (Plastibell) device was placed over the glans and under

the foreskin. A suture was placed around the entire foreskin, which would eventually fall off, after necrosis within a few days (Figures 1 to 3). The parents of subjects were informed to return if the time of bell separation exceeded ten days.

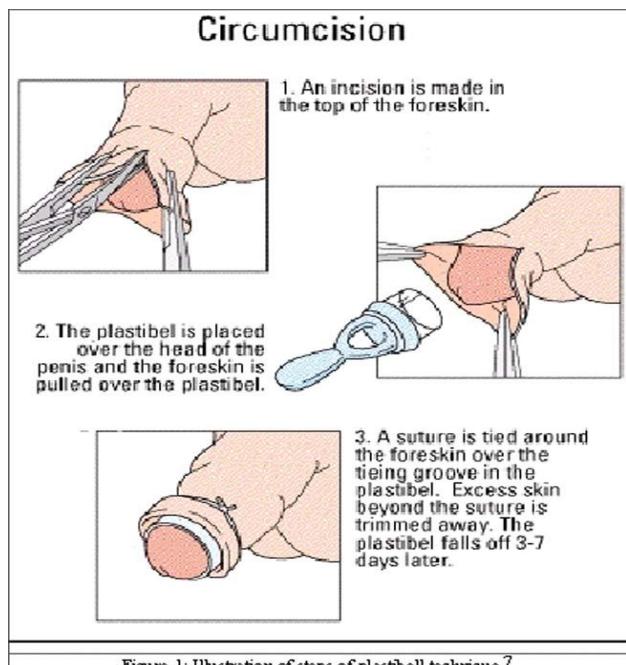


Figure-1: Illustration of steps of plastibell technique.<sup>7</sup>

### Figure 1: Illustration of steps of plastibell technique.

All the subjects were given oral antibiotic and paracetamol drops for 5 days with application of Neosporin ointment twice a day. All the children were followed for one month. Final outcome and complication rate were noted in both the groups and compared.

### RESULTS

Circumcision using Plastibell method was performed in 170 children. 80 were neonates and 90 were above one month and below 2 year. In group 1, all the neonates underwent surgery successfully with the help of local anaesthesia with 2% lidocaine. In most of the subjects recovery was uneventful with complication rate of 6.25%. It was further noted that separation of bell was quick.

In group 2, babies ranging from 1 month to 2 years, Complication rate was much higher (28.8%). In one case we have to put stitch to stop bleeding. There was significant difference in complication rate of the two age groups with higher complication rates in older age group (28.8%) as compared to younger age group (6.25%).

### DISCUSSION

Routine neonatal circumcision can be a safe procedure the overall complication rates of the procedure range between 3 to 17%, however in a few studies it is reported to be high as reported by Linus (20.2%).<sup>6,10</sup> Similarly

Mak et al reported overall complication rate between 17.6 to 17.8 and they were comparable in both methods involving plastibell device and conventional dissection.<sup>7</sup> But Fraser et al, compared these two methods in children and concluded that PD procedure is a safe method for circumcising children.<sup>8</sup> In our study the complication rates are less in neonates (6.25%) than in older age group. Main complication associated with PD in the study was the delayed separation of the ring which was extremely low in neonates because of thin prepuce and easier sloughing. As reported in other studies an obvious advantage of using the plastibell was the short surgery time 3-5 minutes, less complication rate, avoidance of serious complications like glans trauma, meatal trauma, post-operative urethral fistula, excessive bleeding and better cosmetic results.<sup>8,10-14</sup>

Table 1: Comparison of Complication.

Type of complication	Neonates (80)	1 month to 2 year (90)	P value
Delayed separation of ring	3	13	<0.005
Bleeding	0	1	
Superficial infection	2	10	<0.005
Inadequate skin removal	0	2	
Total	5 (6.25%)	26 (28.8%)	

### CONCLUSION

The overall complication rate with plastibell device is lesser in neonates as compared to older children. We recommend circumcision by Plastibell device in neonates.

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