

Comparison of Operative and Post-operative Complications of Plastibell with open technique in circumcision

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ABSTRACT

Aim: To compare the operative and post-operative results of Plastibell technique with open technique for circumcision.

Place: Surgical Unit II Akhtar Saeed medical and dental college Lahore. Farooq Hospital Westwood colony Lahore/ Akhtar Saeed trust teaching hospital Lahore.

Design: Comparative study conducted on outpatient basis during the years 2012 to 2014.

Methods: The circumcision was offered to male babies ages between one week and two years who presented in Out patient department. All circumcisions were performed on religious obligations by parents. Circumcision was carried out using the Plastibell® technique and Open technique under 1% lignocaine ring block/penile block anesthesia. The subjects were divided into two groups. A total of 100 circumcisions were performed and assessed intra operatively and postoperatively after. Variables identified. Data entered in SPSS 20 version. Chi-square test applied.

Results: Platibell technique was performed quickly as compared to open technique. The per operative and post-operative hemorrhage was less in plastibell technique. There was insignificant difference in post-operative pain and infection in both techniques.

Conclusion: Plastibell technique has better outcome in terms of complications like haemorrhage. Plastibell is performed quickly as compared to open technique. However there is no much difference in post-operative pain and infection

Keywords: Circumcision. Plastibell, Open technique.

INTRODUCTION

Circumcision is widely practiced surgical procedure. It is very common practice among muslim population. There are various techniques for this procedure. The conventional method is open and using bone cutter for circumcision. However the palstibell technique is also in practice for a long period. There are various complications associated with each technique. The common complications associated with these techniques are bleeding; pain infection prolonged healing time, UTI and urinary retention. The study aimed to compare the two techniques regarding operative and post operative complications.

PATIENT AND METHODS

This procedure offered to all male babies aged one week to six months on religious grounds. The parents reported in OPD for circumcision. Babies having bleeding disorder, jaundice, hypospadiasis, epispidiasis and congenital chordae were excluded. Circumcision was carried out using the Plastibell technique and open technique under 1% local lignocain ring block/penile block anaesthesia. The

method of circumcision was offered randomly for all the subjects. The parents were allowed to join the study voluntarily. They were explained the technique, operative and post-operative complications. An informed consent was obtained. Preoperative investigations namely bleeding and clotting time was performed in all cases. The procedures were done by the same surgeon. The quantitative and qualitative variables identified. Data entered in SPSS 20 version. Chi-square test applied. Value of $<.005$ was considered to be significant.

Open technique: After informed consent the procedure is performed in supine position. After cleaning the area, 1% xylocaine according to weight of the patient was injected subcutaneously at the base of the penis in a ring fashion through a single puncture by using 1cc insulin syringe as a dorsal penile block. Anesthesia was ensured. Then the prepuce was retracted back a little back to clean the smegma. Two small hemostat clamps were placed at 3'O clock and 9'o clock position at the margins of the prepuce. The prepuce was stretched by pulling both hemostats with one hand. A third hemostat slipped under the prepuce over the dorsal surface of the glans and rotated all around the glans in order to break adhesions. After the prepuce was freed from adhesions, this hemostat is applied at 12'O clock position on to the prepuce down to the margins of

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glans. The incision was marked with gentian violet. The skin of prepuce was incised according to the marker. Hemostat was done with the combination of bipolar diathermy and ligation of bleeder with 4/0 catgut. The dressing was done. The mother/attendant was advised to keep the baby in diaper all the time and for follow up after 24 hours or as the need arose. Single dose prophylactic Antibiotic (Co-Amoxiclav) was prescribed according to weight of the baby. Mild analgesia (syp. paracetamol) was given to the babies for three days.

Plastibell technique: This procedure was also performed in supine position. After cleaning the skin with pyodine solution, total of 1 cc of 1% lignocaine was injected subcutaneously at the base of the penis in a ring fashion through a single puncture by using 1 cc insulin syringe as a dorsal penile block. Anesthesia was ensured. Then the prepuce was retracted back a little back to examine the position of the meatus. Two small hemostat clamps were placed at 3'O clock and 9'o clock position at the margins of the prepuce. The prepuce was stretched b pulling both hemostats with one hand. A third hemostat slipped under the prepuce over the dorsal surface of the glans and rotated all around the glans in order to break adhesions. After the prepuce was freed from adhesions, this hemostat is applied at 12'O clock position on to the prepuce down to the margins of glans. The hemostat applied earlier were removed and reapplied along the side of the central hemostat. The 12'O clock position hemostat removed. It left a strip of crushed skin in the midline over the dorsal surface of the prepuce. The prepuce was cut through this crushed skin by a fine scissors for approximately 1cm from the margin of the prepuce. By holding the side clamps in both hands, the skin was retracted

back over to the shaft Glans was cleared off smegma by using saline soaked gauze. The exact size of plastibell was selected by placing the plastibell over glans. A new plastibell of the chosen size is used. All the three small clamps were removed leaving the long clamp in place. The skin of the prepuce was tied by the loop of a silk suture over the plastic ring, supplied in the plastibell pack. Clamp was removed and the skin was cut along the margins of the ring. The handle of the plastibell was broken apart. The baby was wrapped in a diaper and handed over to the mother. The mother was advised to keep the baby in diaper all the time and for follow up after 24 hours or as the need arose. Antibiotic were never prescribed. Mild analgesia was given to the babies who were older than 6 months of age.

RESULTS

The peroperative findings were recorded after completion of each surgery. The duration of time was less in plastibell technique as compared to open technique (Table 1). The hemorrhage was also less in plastibell technique (Table1). Mild hemorrhage was considered when amount of blood loss was less than 5ml. All the babies were asked for follow up after 24 hours and five days routinely. Of the 50 babies who underwent open circumcision, 3(6%) had post-operative hemorrhage and reported earlier, while no case of hemorrhage reported with plastibell technique (Table 2). In 5 babies (10%) in open technique had mild pain and 2(4%) had severe pain, whereas in plastibell technique, 7(14%) had mild pain. Two babies with open technique had post-operative infection, while none of the bay with plastibell technique had post operative infection.

Table 1: Per Operative results (n=100)

Parameter	Open technique	%	Plastibell	%age	P value
Time					
<30 min	47	94	49	98	.0041
>30 min	3	6	zero	zero	.0032
Haemorrhage					
Mild	3	6	1	2	.004
Moderate	1	2	0	Nil	.0125
severe	0	0	0	nil	0.012

P value of<.005 considered significant

Table 2: The Incidence of post op. complications (n=100)

Complication	Open technique(n=50)	%age	Plastibell (n=50)	%age	P value
Haemorrhage	3	6%	nil	0%	.003
Pain					
Mild	5	10%	7	14	.130
Moderate	2	4%	2	4	.120
Severe	0	Nil	Nil	nil	
Infection	2	4%	Nil	Zero	.004

P value of<.005 considered significant

DISCUSSION

Circumcision is the surgical removal of prepuce. Circumcision is a religious obligation done in almost all Muslim population. There are also other indications for circumcision^{1,2}. There are number of techniques available for circumcision. Each technique is associated with few complications^{3,4}. There are few studies published in literature to compare these techniques and to devise an appropriate technique for circumcision with minimal complications. The open technique is traditional technique. The plastibell is comparatively newer technique and is claimed to be associated with fewer complications^{5,6}.

In open technique the overall procedure was performed in less than 30 min. However in 3 patients (6%) the time exceeded than 30 min. In plastibell technique the overall 49 circumcisions were performed within 30 min only one circumcision had longer duration. The time for surgery is less in plastibell as compared to open technique. In open technique three babies had mild haemorrhage for which additional measures (diathermy, stitching) was done. Only one patient (2%) with plastibell had haemorrhage during the procedure. The peroperative rate of haemorrhage is more in open technique as compared to plastibell.

While comparing the post operative results three babies had post operative infection. This was milder form. All were settled with use of antibiotics for three days. In plastibell technique one baby had milder infection that settled with use of antibiotics. There incidence of mild pain in 5 babies that was assessed by irritability that was settled with use of paracetamol. In 7 babies having plastibell technique they had mild pain. All babies settled with use of paracetamol. This is significantly lower than those reported by Mak et al⁷ (13.7% in Plastibell and 14.9% in dissection group), Fraser⁸ (4% with both techniques), and Sorensen (5%)⁹. Since the criteria of infection were only clinical in our study as well as other studies, it may be underestimated.

A number of studies proposed that circumcision with plastibell technique is a simple method and complications including hemorrhage, local infection, sepsis, metal ulceration, and poor cosmetic results are rare^{10,11}. On the other hand, tragic complications such as traumatic amputation of the glands and urethra-coetaneous fistula in open technique have been reported in other studies^{12,13,14,15}.

In the study of Sadique I et al¹⁶, plastibell was found to be more appropriate technique and have better outcome in terms of ease of technique, lesser complications than any other technique.

Mark et al. reported that the overall complication rates (intra and postoperative) were similar between

the conventional dissection and Plastibell groups being 17.6% and 17.8%, respectively⁷.

CONCLUSION

Both techniques open and plastibell circumcision are safe. Plastibell technique is performed quickly as compared to open technique. Plastibell circumcision is associated with less complication in terms of haemorrhage and infection. There is no much difference in post operative pain in both techniques.

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