Original Article

Assessment of Safety and Complications of Circumcision performed by Plastibell

Ghulam Mustafa, Aasim Malik, Junaid Khan Lodhi

Objective: To assess the safety and complications of circumcision performed by plastibell technique.

Material and Methods: A descriptive prospective study was done in a Khair-un-Nisa, an affiliated Hospital of FMH College of Medicine&Dentistry Shadman Lahore. Data was collected from all the case done between January 2012 to December 2013. A total of 120 cases registered and results were analyzed to see the safety of procedure.

Results: A total of 120 cases registered for the study. Mean age of neonates and infants was 14 ±2 days. Circumcision was done with plastibell in all case. There was no major complication noted at operation time or at follow up. 13(%) cases developed minor complication like penile edema and redness. 5(%) got platibell slipped downward and 2 upward at shaft. In most case plastibell dropped at 5-7 days. 12 case plastibell dropped after 10 days.

Conclusions: It is an easy, quick and safe technique. Outcome of this procedure is encouraging and there is no extra care needed for this procedure.

Keywords: Circumcision, plastibell, pediatrics, complications

Introduction

The history of circumcision dates back the history of mankind. It is the most common surgery performed worldwide in pediatric age group. The circumcision is compulsory practice in Islam as a ritual of the prophet Ibrahim. It is usually done in 1st week of life, although time of circumcision varies in different areas. During World War II tropical diseases of foreskin in American servicemen led to an increase in the trend towards routine neonatal circumcision. Throughout the world, millions of male neonates and infants undergo circumcision for religious, cultural, social and medical reasons[1].

There are many methods of doing circumcision like bone-cutter, Plastibell, Gomco clamp and open method. Each has its own merits and demerits. Among these the Plastibell and Gomco clamp are considered as most safe and effective methods. In Pakistan Circumcision has long been performed by barbers in 1st week of life, using shaving knife without the use of antiseptic technique and without caring the bleeding. Now due to increasing awareness and knowledge the circumcisions are increasingly performed by surgeons. Most surgeons prefer the Plastibell as it has additional advantage of having less and practically no blood loss and can be done safely in babies who have some bleeding disorders. The Gomco clamp method is equally safe as regards the injury to Glans, but it cannot be done in infants having some bleeding disorders and there is slightly more bleeding with this method.

Although thought a minor procedure, circumcision is after all a surgical procedure and has its own complications. These complications range from minor bleeding to severe life threatening necrotizing fasciatitis[2]. To prevent these complication one should follow the same aseptic surgical techniques as in any other major surgical procedure. If we talk about complications of plastibell, these are bleeding, infection, excessive prepuce skin loss, inadequate skin removal. Proximal migration of bell, Bell retention and Glans prolapse.[3,4] Circumcision can be performed under local anesthesia in dorsal penile/ ring block or general anesthesia in older children.[6] With plastibell technique under local anesthesia, it takes 10-15 minutes to complete the whole procedure. Lignocaine 1% or 2% plain is usually used. Dorsal penile block is usually used, but it's better to use penile ring block for better pain control[5]. Plastibell is available in different sizes ranging from 1.1 to 1.7. Appropriate size is selected according to the age and size of Glans. Size calculation devices are also available. It is very important to select appropriate size, as extra large bell can migrate proximal and because impaction over penile shaft and under size can lead to Glans necrosis and urinary retention[7]. We conducted this study to see the effectiveness of plastibell technique in our setup.

patients in our study presented in a khair-un-Nisa Hospital, an affiliated hospital of FMH College of Medicine and Dentistry Lahore, from January 2012 to December 2013. We included babies upto one year of life in study. Babies having other medical conditions like Hypospadias, Jaundice and skin infections were excluded. An informed written consent was taken. Data maintained in preformed proforma. Data analyzed using SPSS 18.
Procedure

Results

A total of 120 cases registered for the study. Mean age of neonates and infants was 12 ±2 days. Circumcision was done with plastibell in all case. There was no major complication noted at operation time or at follow up. 13(%) cases developed minor complication like penile edema and redness. 5(%) got platibell slipped downward and 2 upward at shaft. In most case plastibell dropped at 5-7 days. 12 case plastibell dropped after 10 days. **Table 1**

Table-1: Complications of Plastibell Circumcision (n=120

Complications	no
Celleulitis	13
Primary Hemorrhage	1
Secondary Hemorrhage	0
Proximal migration of ring	2
Penile shaft injury	0
Health facility visit	0

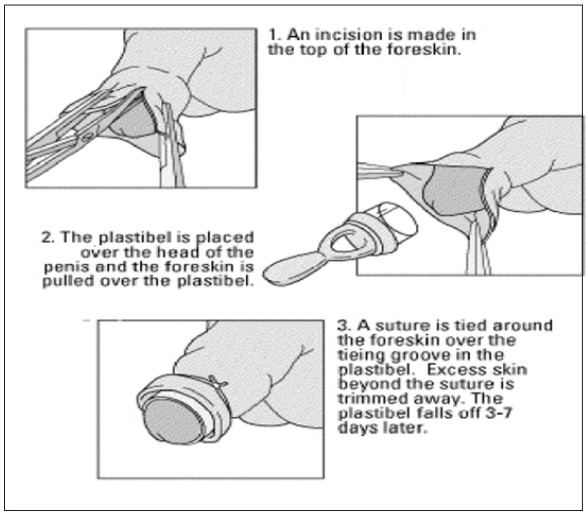

Fig-1: Demonstration of performing circumcision by Plastibell .

Discussion

Circumcision is done by various methods but plastibell technique is thought to be safe, easy and with less complications. The reported rate of complication is 2.3-18.5%[8] the most common complications are bleeding, penile shaft edema, infection, proximal migration of bell and delayed separation of bell. Some serious but rare complications like glans injury, necrotizing fasciitis and shaft injury are also reported in literature.[9]

In our study the complications encountered were minor bleeding, penile shaft edema early ligature slippage and proximal migration of bell. These complications are minor and are almost same as reported in other literature. There was no serious complication like glans injury or fasciitis etc encountered in our study. The reasons were correct selection of bell size, prophylactic use of antibiotics and careful handing while doing procedure. The time of separation of the bell is different in different age group and also dependent on the size of bell. The reported in different studies is 10 days[8] while the average time in our study was 07 days. The reason for this difference is the nature of skin of different babies, material of ligature used, length of foreskin left and edema of penile shaft. As regards the pain control for circumcision, most commonly used agent is 1-2% plain lignocaine[5]. Our practice was to use 1-2ml 2% plain lignocaine as penile block followed by oral ibuprofen for 03 days. In the past it has been done without any pharmacological agent by barbers, some studies shows behavioral changes in children whose circumcision were done either without analgesia or inadequate analgesia. Other agents used for pain rol are EMLA (Eutectic mixture of local sthetics) cream, lignocaine-prilocaine bination. Although the safety of bone-cutter well ıed by some experienced surgeons and they ɔort its use[10] but at the same time its magnitude of plications is quite high if mishandled and ıntial injuries to Glans of penis is not ɔmmon.[11]

ıclusion

plastibell circumcision is a good procedure with mum complications and early recovery. The tional bone cutter method, although performed uently is vulnerable for glans injury. So if performed with care it is the best method of circumcision especially at early neonatal age.

Department of Surgery
Fatima Memorial Hospital, Lahore

References

1. Shah T, Raistrick J, Tailor I, Young M, Menebhi D, Stevens R. A circumcision service for religious reasons. BJU International 1999; 83: 807-9.
2. Al-Marhoon MS, Jaboub SM. Plastibell Circumcision: How Safe is it? Experience at Sultan Qaboos University Hospital. Sultan Qaboos Univ Med J. 2006; 6: 1720.
3. Lazarus J, Alexander A, Rode H. Circumcision complications associated with the Plastibell device. S Afr Med J 2007; 97: 192-3.
4. Jan IA. Circumcision in babies and children with Plastibell technique: an easy procedure with minimal complications-experience of 316 cases. Pak J Med Sci 2004; 20: 175-80.
5. Taddio A. Pain management for neonatal circumcision. Paediatric Drugs 2001; 3: 101-11.
6. Hardwick-Smith S, Mastrobattista JM, Wallace PA, Ritchey ML. Ring block for neonatal circumcision. Obstet Gynecol 1998; 91: 930-34.
7. Moosa FA, Khan FW, Rao MH. Comparison of complications of circumcision by Plastibell Device Technique' in male neonates and infants. JPMA 2010; 60:664.
8. Duncan ND, Dundas SE, Brown B, Pinnock-Ramsaran C, Badal G. Newborn Circumcision Using the Plastibell device: An Audit of Practice. West Indian Med J. 2004; 53: 2326.
9. Bliss DP, Healey PJ, MD, Waldhausen JHT. Necrotizing fasciitis after Plastibell circumcision. Journal of Pediatrics 1997; 31: 459-462.
10. Mirza I. is bone cutter a safe tool for perfoming ritual circumcision: an audut of 329 consecutive cases. Esclapio 2009; 5:21-24.
11. Rehman J, Ghani U, Shehzad K, Sheikh IA. Circumcision - A comparative study. Pak Armed Forces Med J 2007; 57: 286-8.