Complications of Circumcision in Male Children: Report of Sixty-one Cases

Mahmood Abbas, CABS, EBPS* Hussain Mohamed, MD, MRCSI** Nader Rabea, MBBS, MD** Eizat Abrar, MD, MRCSI** Saeed Al-Hindi, CABS, FRCSI*
A. Aziz Hasan, MD, CABS*

Objective: The aim of this study is to revise the complications of circumcision and measures of their prevention.

Setting: Pediatric Surgery Unit, SMC.

Design: Prospective study.

Method: Sixty-one consecutive cases of circumcision with complications were reviewed prospectively during 18 months, from June 1997 to December 2008.

Result: The mean age at presentation was 20 months (range one week to eleven years). The most common observed complications were redundant foreskin in 28 (46%), followed by minor bleeding in 17 (28%). Five serious complications had been seen after clamp technique for circumcision (3 glanular trauma and 2 webbed penises). Eleven minor complications were seen, nine occurred in pediatric surgery unit out of total of 600 circumcisions performed during the study period, 1.5%.

Conclusion: Circumcision may be associated with serious complications especially with clamp technique. To prevent these complications, trained physicians should perform this procedure.

Bahrain Med Bull 2010; 32(3):

Male circumcision is the most commonly performed surgery in this society. Most circumcisions are performed for religious reasons[1]. The reported rates of complications vary from 1% to 15%[2]. Most complications are minor, but major complications could occur[3]. Occasionally, parents and primary physicians consult a pediatric surgeon regarding unsatisfactory cosmetic result, which is commonly attributed to incomplete excision of the prepuce[4].

The aim of this study is to present 61 consecutive circumcision cases presented with complications during 18 months. Measures of prevention are emphasized.

* Consultant Pediatric Surgeon
** Senior Resident
Pediatric Surgery Unit
Department of Surgery
Salmaniya Medical Complex
Kingdom of Bahrain
Email: Masghar48@yahoo.com

METHOD

Prospective study of sixty-one consecutive circumcision patients with complications presented to pediatric surgery unit during 18 months (June 2007 to December 2008) were evaluated. Data included age, technique of circumcision, age of referral to our unit, main complaints of the parents, type of the complication and the treatment. The specialty of the physician who performed the initial procedure was identified. No cases with complications of circumcision were excluded during that period.

RESULT

An average of four hundred thirty-two circumcisions is performed yearly in pediatric surgery unit, SMC. Nine complications occurred in pediatric surgery unit out of total of 600 circumcisions performed during the study period, 1.5%.

Sixty-one consecutive circumcision cases with complications were seen in the pediatric surgery unit, SMC. The mean age at presentation was 20 months (range one week to eleven years).

The most common observed complications were redundant foreskin in 28 (46%), followed by minor bleeding in 17 (28%). Five serious complications had been seen after clamp technique for circumcision (3 glanular trauma and 2 webbed penises).

Only 10 cases (16.4%) had the primary procedure in Salmaniya Medical Complex. The majority, 51 cases (83.6%), were circumcised in other hospitals and clinics by general physicians, family physicians and pediatricians. The patients' ages at circumcision were between one week and 3.2 years (mean of 3.6 months); nearly half of them (35 cases) were operated at or below 1 month of age. The age of referral to our unit after circumcision ranges from one week to 11 years (mean 20 months). The method of circumcision was Plastibell technique in 32 cases (52.5%), cutting or clamps in 29 cases (47.5%). Eleven minor complications were seen, nine minor complications (14.8%) occurred in pediatric surgery unit, SMC: bleeding (five cases), adhesions (three cases), urethral stenosis (one case) and retained Plastibell (one case). Table 1 summarizes the types of complications.

All complications required a second procedure, either under local or general anesthesia, to treat the complication. After follow up of 12 months, all patients in this study had satisfactory cosmetic outcome and none of them developed complications or required a second revision.

Table 1: Types of Complications

Type of Complication	Number of patients (%)
Redundant foreskin*	28 (46%)
Bleeding	17 (28%)
Glanular injury	3 (5%)
Phimosis	3 (5%)
Meatal stenosis	3 (5%)
Webbed penis	2 (3%)
Inclusion cyst	2 (3%)
Retained Plastibell	2 (3%)
Wound separation	1 (2%)
Total	**61**

* With and without adhesions

The most common complication in this study was redundant foreskin (46%), which caused hygiene problem and required excision of the excess foreskin. None bleeding cases required blood transfusion or prolonged admission. Five of the patients who were circumcised by clamp technique developed serious complications. Two cases presented with bleeding and amputation of the perimeatal glanular tissue and required urethral catheterization for few days. One case presented with partial amputation of the left glanular wing resulting in hypospadic meatus that required surgical repair (Figure 1). Excessive removal of ventral skin of the shaft resulted in webbed penis in two cases and required surgical correction.

(a) Glanular Trauma **(b) Phimosis** **(c) Excess Foreskin** **(d) Webbed Penis**

Figure 1 (a, b, c, d): Shows Some Complications of Circumcision

DISCUSSION

Male circumcision is one of the most common surgical procedures performed around the world. It is usually performed for religious reasons and less commonly indicated for medical reasons[5]. Complication rates vary from 1% to 15%[2]. Most of the complications are minor, such as bleeding, preputial adhesions and penile cysts. Major complications such as glanular or penile amputations, urethrocutaneous fistula and iatrogenic hypospadias could occur[3].

Surgical and medical doctors perform many circumcisions in health centers, private clinics and private hospitals. Consequently, these children are rendered at risk for various complications especially if inexperienced physicians perform the procedure.

Despite the procedure is being performed by different specialists, the majority of children obtain good to excellent results[4]. On occasion, the results are unsatisfactory to the parents or primary care physician because of excess redundant foreskin and many of these children are referred to a pediatric surgeon. A study of circumcision has suggested that there is no improvement in the appearance of the redundant foreskin with age and another study found that redundant foreskin causing recurrent posthitis was an indication for surgery in 15% of cases referred for circumcision revision[6,7]. In general, excess foreskin causes mild adhesions, which could be released easily in the clinic. Revision of circumcision is reserved for those cases with dense glanular adhesions, recurrent infections, difficulty in hygiene and cases with uncircumcised appearance of the penis.

Revision is usually performed by sleeve technique. This easy technique allows accurate removal of excess mucosa without excising the skin and produces excellent cosmetic result. Revision of circumcision by clamp technique is difficult and risky especially in inexperienced hands[4]. In general, the complication rate of circumcision revision is very low[4].

The ideal age for circumcision is controversial. The current recommendations are without satisfactory proof, suggesting that circumcision in neonates carries higher complication rate and should be delayed for 6 months after birth[8,9]. On the other hand, it is a commonly held religious belief by many parents that circumcision should be performed at age of 7 days. A recent study supported the later opinion showed that neonatal circumcision is pain free and carries minor complication rate[10]. We believe that neonatal circumcision is a safe procedure in the hands of an experienced physician.

Serious complications can be prevented by marking the line of excision and avoiding excessive traction on the foreskin during clamp application. Those who are not familiar with clamp technique better do the procedure using the plastibell which is a safe device and does not cause major complications.

Since circumcision is a common procedure and practiced by many medical specialists, complications are expected to continue. In order to prevent major complications, standard rules and regulations should be developed and qualified physicians should perform the procedure. This should include a didactic training course and a period of direct supervision before performing this procedure independently.

CONCLUSION

Circumcision is a common procedure and carries small but serious risks and complications especially when using clamps. These complications can be avoided if the procedure is licensed to those who had adequate training.

REFERENCES

1. Moses S, Bailey RC, Ronald AR. Male Circumcision: Assessment of Health Benefits and Risks. Sex Transm Infect 1998; 74(5): 368-73.

2. Harrison NW, Eshelman JL, Ngugi PM. Ethical Issues in the Developing World. Br J Urol 1995; 76 (Suppl 2): 93-6.
3. Ceylan K, Burhan K, Yilmaz Y, et al. Severe Complications of Circumcision: An Analysis of 48 Cases. J Pediatr Urol 2007; 3(1): 32-5.
4. Brisson PA, Patel HI, Feins NR. Revision of Circumcision in Children: Report of 56 Cases. J Pediatr Surg 2002; 37(9): 1343-6.
5. Hirji H, Charlton R, Sarmah S. Male Circumcision: A Review of the Evidence. JMHG 2005; 2(1): 21-30.
6. Breuer GS, Walfisch S: Circumcision Complications and Indications for Ritual Circumcisions: Clinical Experience and Review of the Literature. Isr J Med Sci 1987; 23(4): 252-6.
7. Redman JF. Circumcision Revision in Prepubertal Boys: Analysis of a 2 Year Experience and Description of a Technique. J Urol 1995; 153(1): 180-2.
8. Spilsbury K, Semmens Jb, Wisniewsk Zs, et al. Routine Circumcision Practice in Western Australia 1981-1999. Anz Journal of Surgery 2003; 73(8): 610-4.
9. Machmouchi M, Alkhotani A. Is Neonatal Circumcision Judicious? Eur J Pediatr Surg 2007; 17(4): 2661-9.
10. Banieghbal B. Optimal Time for Neonatal Circumcision: An Observation-Based Study. J Pediatr Urol 2009; 5(5): 359-62.