



CIRCUMCISION WITH GOMCO CLAMP: A REVIEW OF 110 CASES

Surgery

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ABSTRACT

Background/purpose: Circumcision using Gomco clamp is a commonly employed method in Saudi Arabia. The purpose of this study was to evaluate the safety and effectiveness of this method of circumcision.

Methods: Between January, 2018 and February 2019, 110 patients underwent circumcision using Gomco clamp at King Fahd Military Medical Complex, Dhahran. The outcome variables studied included operative time, number and type of complications, redo procedures and cosmetic result.

Results: The age range of patients was 4 months to 3 years. The average operative time was 21 minutes. The overall complication rate was 2.7% (n=3). Two patients (1.8%) had moderate bleeding which was managed with compressive dressing. One patient (0.9%) had penile edema which resolved on conservative treatment. Cosmetic result was satisfactory in all patients.

Conclusion: The circumcision using Gomco clamp is a safe and effective method with good cosmetic outcome.

KEYWORDS

Circumcision , Gomco Clamp

INTRODUCTION

Circumcision is one of the most commonly performed procedures in pediatric surgery. It has cultural, social, medical, and religious indications. Male circumcision is regarded as one of the oldest procedures in the world.¹ There are a variety of methods for performing circumcision. These include sleeve technique, dorsal slit method, guillotine method, Smart Clamp, Mogen, Plastibell and Gomco clamps.^{2,3} There are controversies regarding technique, instrumentation, and the person performing circumcision as well. The diverse set of techniques lead to difference in reported complications too. This study was carried out to evaluate the safety and effectiveness of circumcision using Gomco clamp which is the most common method used in our institution.

Methods

This study included 110 patients who underwent circumcision between January 2018 and February 2019 at King Fahd Military Medical Complex, Dhahran. All patients were booked as day cases and admitted on the day of surgery. A detailed history was taken in the outpatient clinic from the parents and a thorough physical examination was done. A detailed examination of the genitalia was done especially to look for hypospadias, inguinal hernia or mal descended testis. Investigations included a haemogram, screening for sickle cell disease, kidney function tests, serum electrolytes and coagulation profile in all patients. Preoperative anesthetic assessment was done routinely in all patients. The parents were given verbal as well as written information in Arabic as well as English about the nature of the procedure, the approximate time of surgery, the post-operative monitoring in the ward and then at home, care of the wound and regular follow-up.

Operative technique

All circumcisions were done under general anesthesia. Gomco clamp was used in all patients (figure 1 and 2). The genital area is prepped and draped. The prepuce is gently separated from the glans up to corona, the size of the glans is assessed for the correct size of the clamp and then redrawn over the glans. The prepuce is marked with a skin marker at the coronal circle obvious through the skin. A dorsal slit is made for the easier insertion of the clamp. The appropriate size clamp is introduced and the preputial skin is brought through the outer plate placed over the margin of the clamp up to the marked circle and the plate is tightened over the clamp bell with the near screw. It is kept for 3 minutes. After this period the skin is excised over the marked site at the margin of the bell on the plate. The clamp is opened and the coronal

margin now cleared off prepuce is checked for bleeding. The skin and inner mucosal layer is approximated with circumferential 6-0 monocryl sutures for haemostasis. Topical antibiotic ointment is applied over the wound. The baby is observed in the recovery room initially and then sent to the ward for further observation. It is usual to send the baby home after he has passed urine. The parents are given written as well as verbal instructions for post-operative care of the baby to monitor bleeding at the site and to keep the area clean. The baby is rebooked for follow-up at 1 week, 2 months and 6 months to notice any immediate or late complications and the final cosmetic appearance.



Figure 1(Gomco clamp unassembled)



Figure 2(Gomco clamp assembled)

RESULTS

- There were 110 patients in the study.
- The age range of patients was between 4 months to 3 years.
- The average operative time was 21 minutes.
- Total complication rate was 2.7%(n=3).
- Two patients(1.8%) had moderate bleeding which was managed by pressure dressing.
- One patient(0.9%) had penile edema which was managed conservatively.
- No patient developed Meatal stenosis.
- None of the patient had a redundant prepuce requiring a redo

procedure.

- Cosmetic result was satisfactory in all patients.
- There was no incidence of injury to glans.

DISCUSSION

Circumcision performed using the Gomco clamp is usually safe, quick and effective, and results in very little bleeding. However, every surgeon performing circumcision has concerns or questions regarding the procedure. The concerns include technique related, size of clamp to be used, assessing how much foreskin to remove and those regarding final cosmetic outcome.

The average operative time in our study was 23 minutes. Literature reports a median operative time of 9 minutes after Gomco circumcision.⁴ The longer operative time in our group can be attributed to the fact that our sample included relative older age group with resultant thicker tissue and need to achieve haemostasis using bipolar cautery. The second reason was that circumferential suturing to approximate skin and the mucosal cuff was done in all patients.

The overall complication rate in the present study was 2.7% with bleeding(1.8%) being the most common complication. Studies have reported up to 7% complication rate after Gomco circumcision with bleeding rates being up to 3%.⁴ One important modification in the older age group is the circumferential 6-0 moncryl sutures being used to approximate the skin and mucosal layers at the end. This helps greatly in achieving haemostasis particularly in an older child. Cosmetic result was satisfactory in all patients. Literature supports this view with superior cosmetic outcomes being reported after Gomco circumcision.⁵

The limitation of the present study is small sample size, relatively shorter follow up and lack of a control group for comparison.

CONCLUSION

The circumcision using Gomco clamp is a safe and effective method with acceptable complication rate and good cosmetic outcome. Skin marking to decide the amount of foreskin to be removed is an essential step as well as the appropriate size of the bell to be used. In older children circumferential sutures to approximate the skin and mucosal layer greatly prevents bleeding.

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