

Comparison of Sleeve Surgery and Guillotine Technique in Circumcision

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Introduction: Circumcision is the surgical removal of prepuce on the glans that is the oldest known in the history and still the most common operation in the world. Circumcision can be done with different surgical methods. We aimed to compare the two most widely used circumcision techniques in terms of the duration and complications of the operation.

Materials and methods: The records of 148 circumcised patients were retrospectively reviewed in the pediatric surgery clinic. Seventy-three of the patients were circumcised by the same surgeon using the guillotine method. Seventy-five patients were surgically circumcised by another surgeon. All of the patients were circumcised under local anesthesia and sedation. Patients' operation time, complications after circumcision were compared.

Results: Complications seen; pain, edema, hemorrhage, abrasions on the glans, color change due to local anesthesia and infection in the circumcised area. There were no late complications in both groups. There were no significant differences between the two groups in terms of complications.

Conclusion: The techniques used in circumcision may vary from surgery to surgery. Eventually, they all reach the same result. The important thing is to pay attention to protect from complications.

Keywords: Circumcision, complications, glans

Introduction

Circumcision is the removal of the skin covering the glans. It is the oldest and the most common operation in the world (1, 2).

Circumcision is performed for purposes such as medical, religious, and traditional. The most common medical indications of circumcision are phimosis, balanitis xerotica obliterans, paraphimosis, recurrent balanitis and posthitis (3). The World Health Organization approves the circumcision provided that it is performed in appropriate conditions (4). It can be performed

by surgical techniques (Sleeve technique, dorsal slit, and excision, guillotine technique) as well as by using special clamps (Mogen clamp, Gomco clamp, and Plastibell device) (5). In the sleeve technique which is preferred by many surgeons, the skin is marked to identify the skin and mucosa incision borders and then incised. The mucosa and the skin between the incisions are excised all around. The leftover mucosa and skin are sutured together (6). In the guillotine technique, the straight clamp is placed in prepuce. In the meantime, it should be made

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sure that glans belongs the clamp, otherwise, serious injuries can occur (6).

In this study, we compared 2 most common, different circumcision techniques in terms of duration of the operation and complications.

Materials and Methods

The digital records of 148 patients who were circumcised in the Mustafa Kemal University Pediatric Surgery Clinic were retrospectively evaluated between the dates of December 2016 and January 2018. Patients who had hemophilia or any other bleeding diathesis, secondary circumcision, and who were circumcised while having another operation such as an inguinal hernia in the same session were not included in the study. The patients were divided into 2 groups. Seventy-three patients of the first group were circumcised with the guillotine technique. Seventy-five patients in the second group were circumcised by another surgeon with the sleeve technique. Physical exams were performed on all the patients one day before the operation. After hemogram tests performed and anesthesia consultations were done, starvation times of patients were determined according to the time of their operation.

All the patients were circumcised under local anesthesia and sedation. For local anesthesia, lidocaine and bupivacaine were administered together at doses appropriate to age and as a dorsal penile nerve block. The control of bleeding was done with a bipolar cautery. 5/0 or 6/0 vicryl suture was used according to the patient's age. Pain evaluation was done by using Wong-Baker faces Pain Rating Scale. The pain complaints after a post-operative 6th hour were evaluated as positive. After the circumcision, the wounds were dressed with

antibiotic lotion and vaseline. Wound dressings were removed 8-24 hours after the circumcision either by the family members at home or by us at the hospital. No prophylactic or post operative antibiotics were prescribed.

Application of antibiotic lotion 3 times a day, use of suppository with 10 mg/kg paracetamol 3-4 times a day as an analgesic in patients younger than 6 months, and ibuprofen 8mg/kg suspension of 3-4 times a day for patients older than 6 months were prescribed. All the patients were told they could take a shower 3 days later.

Results

The mean age in the group-1 was 3.09 (2 months - 12 years) while the mean age was 3.24 (1 month - 11 years) in the group-2. Complications were seen in 42 patients. 23 of these complications occurred in group-1 and 21 occurred in group-2. Complications included pain, edema, bleeding, abrasions in the glans due to opening prepuce adhesion, change of color due to local anesthesia, and infection in the circumcision area (Figure-1).

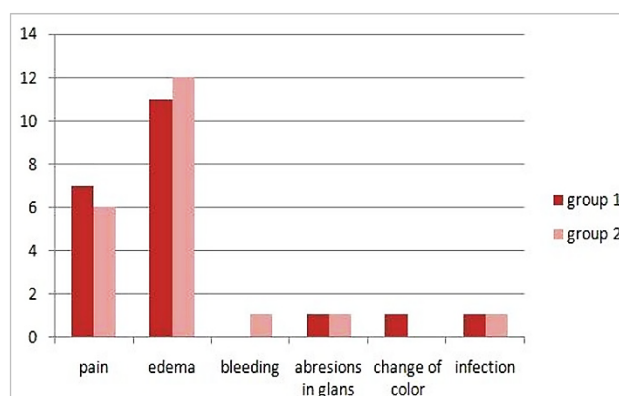


Figure-1. Complication rate between the groups

No late-term complications were seen in either of the groups. There was no significant difference between the two groups in complications. The mean operative duration was 19 ± 4 minutes in group-1 while it was 21 ± 5

minutes in group-2 ($p>0.05$). One patient in group-2 came back to the hospital the same day due to bleeding. The bleeding was stopped with a pressure dressing. No suture was needed. Wound infection was seen in one patient in each group. No systemic findings such as fever or elevated white blood cell count. The infection was treated with an antibiotic pomade application on the wound. Abrasions in the glans and the color change due to local anesthesia regressed on its own.

Discussion

The frequency of circumcision in the USA is 75% while this rate is nearly 20% in the Europe countries (4) and almost 100% in Turkey, according to WHO. The complication rate due to circumcision was reported as nearly 5%. This number increases when circumcision is performed by inexperienced people and in mass circumcisions (7). The most common complication is bleeding at a rate of 3.1% (8). These bleedings can result in a change of sex and even death (9). In our study, bleeding was seen in only one patient (0.6%) in group-2. We believe that the bleeding was due to lack of attention provided at home rather than the circumcision technique.

Although bleeding, infection, cohesion between circumcised skin and glans are the most common complications, they are minor problems and most of the time they heal by itself (10). Sometimes the circumcision skin can be left too short or too long which may result in phimosis or concealed penis and may require circumcision revision (11). Severe problems such as skin bridges, inclusion cyst, iatrogenic hypospadias and epispadias, partial glans amputation, total loss of penis, necrotizing fasciitis, sepsis, Fournier gangrene can also be seen (12). The complications seen in patients in

our study were minor problems. No revision was needed in any of the patients. In the groups where sleeve technique and guillotine technique were used, although the guillotine technique lasted mildly shorter, there was no significant difference between the groups in the duration of operations. As a result, circumcision is a surgical procedure that has a low complication rate when it is performed by experienced professionals in sterile operating room conditions (13). Particularly due to the increasing demand for circumcision in the summer, circumcision requires significant time and effort in between routine and emergency procedures in tertiary health care centers.

Conclusion

Circumcision can be performed with different techniques in order to be fast, however, it is important to know that circumcision is not a simple procedure. An ideal circumcision should be performed in the sterile conditions, with a sufficient analgesia, and by the book regardless of the technique used and should have a good look cosmetically. Surgeons should use the technique that they are experienced in and they feel confident in. It is our opinion that as long as the appropriate care and attention are provided during and after a circumcision performed according to surgical rules, no severe problems should occur.

Conflict of Interests

The authors declare that they have no conflict of interest in the current study.

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