



Practice of ritual circumcision in hemophilic subjects: About 20 cases

Dr Papa Alassane Mbaye¹, S Camara², L Bembo¹, M Fall², C Seye³, A Sagna¹, O Ndour², G Ngom¹

¹ Associate Professor, Albert Royer Children's Hospital, Cheikh Anta Diop University, Dakar, Senegal

² Aristide Le Dantec Hospital, Cheikh Anta Diop University, Dakar, Senegal

³ Diourbel Regional Hospital; Alioune Diop University of Bambey, Bambey, Senegal

Corresponding Author: Dr Papa Alassane Mbaye

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Abstract

Objectives: To evaluate the effectiveness of the anti-hemorrhagic drug therapy protocol we implemented, as well as the surgical techniques adopted, in hemophilic patients undergoing circumcision.

Patients and Methods: This was a prospective study conducted over four months, from July 2025 to October 2025, in the Pediatric Surgery Department of the Albert Royer National Children's Hospital and the National Blood Transfusion Center (CNTS), in which 20 files were collected. The therapeutic protocol consisted of injectable Kovaltry and Exacyl combined with hygiene and dietary measures. The surgical techniques were the guillotine technique with a loose transient tourniquet and the two-stage mucocutaneous section technique under guide clamp.

Results: Mean age was 8.7 years (range: 10 months to 16 years). Patients were classified by type of hemophilia and the severe type was the most frequent (9 of 20 patients). All patients received the pre-established anti-hemorrhagic protocol. The guillotine technique with a loose transient tourniquet was performed in 10 patients, and the two-stage mucocutaneous section technique under guide clamp in the other 10. Mean length of hospital stay was 4 days. Complications were dominated by postoperative hemorrhage, followed by infections.

Conclusion: The guillotine technique with a loose transient tourniquet and progressive release, and the two-stage mucocutaneous section technique under guide clamp, are well suited to circumcision in these hemophilic patients, as they allow acceptable control of bleeding and appear to have comparable efficacy, although the small sample size does not allow conclusions of equivalence.

Keywords: Ritual circumcision, hemophilia, child

Introduction

Hemophilia is a hereditary constitutional disease transmitted in an X-linked recessive manner, caused by a deficiency of factor VIII (hemophilia A) or factor IX (hemophilia B) [1]. Circumcision is the complete or partial excision of the foreskin in males [3]. In Senegal, circumcision is practiced both in Muslim communities (estimated at 90% of the population) and among those practicing traditional religions [4]. The complications of this procedure are numerous, ranging from hemorrhage to amputation of the glans, not to mention infections and penile fistulas. In hemophilic patients, circumcision must be supported by an anti-hemorrhagic therapeutic protocol, and the surgical technique requires dexterity and meticulous attention to avoid intraoperative and postoperative bleeding. The aim of our study was to evaluate the effectiveness of the anti-hemorrhagic drug therapy protocol we implemented, as well as the surgical techniques adopted, in hemophilic patients undergoing circumcision. This technique gave us good results.

Patients and Methods

This was a prospective study conducted over four months, from July 2025 to October 2025, in the Pediatric Surgery Department of the Albert Royer National Children's Hospital and the National Blood Transfusion Center (CNTS). We included all hemophilic patients under 15 years

of age referred by the center for management, which allowed us to collect 20 patients. Ethical considerations were respected.

A 24-hour hospitalization was carried out to administer the anti-hemorrhagic drug treatment before the procedure. The surgical procedures were performed by two experienced senior surgeons with a single assistant, under local anesthesia. A postoperative hospitalization of 24 to 48 hours was required depending on the immediate course.

The therapeutic protocol adopted was as follows:

- Kovaltry: 40 U/kg to be administered 1 hour before the surgical procedure by slow intravenous injection
- 40 U/kg every 24 hours by slow intravenous injection for 48 hours
- Inject 30 U/kg for any bleeding occurring beyond 48 hours
- Exacyl injectable: 1 ampoule every 24 hours for 48 hours
- ½ ampoule as local tamponade during dressings
- Systematic antibiotic prophylaxis: oral amoxicillin, 50 mg/kg for ten days
- Do not rub, as dressing care is very painful
- Analgesics must be given: injectable paracetamol and step 2 analgesics if needed
- Scabs must not be removed during dressings
- After 24/48 hours of hospitalization in pediatric surgery, the patient is discharged; ask him to go to the CNTS for an evaluation before returning home.

- Outpatient follow-up: after discharge, appointment on day 15 (D15) for evaluation at the CNTS before the dressing in surgery at Albert Royer Children's Hospital.

For the surgical techniques

Guillotine technique with a loose transient tourniquet: a loose tourniquet is first placed at the base of the penis, and the foreskin is then resected flush with the clamp; hemostasis is achieved with electrocautery, with progressive release of the tourniquet to better manage bleeding. Mucocutaneous sutures are made with simple approximating stitches.

Two-stage mucocutaneous section technique under guide clamp

After local anesthesia, the level of the skin incision is marked with a dermatographic pencil about 2 mm below the reflection of the basal limit of the glans on the skin of the foreskin. A Kocher clamp is then placed transversely along the mark, above the glans, which is well pushed back beneath it. The first stage, a skin incision with a cold blade, is made along the mark with dissection and meticulous hemostasis using electrocautery. The second stage, mucosal section, is then performed using the same method with the Kocher clamp and a mark 2 mm below the balanopreputial sulcus; the procedure is completed with a suture made of two mucocutaneous hemi-running stitches after perfect hemostasis.

Results

During this 4-month period, 20 hemophilic patients were circumcised in the pediatric surgery department of Albert Royer Children's Hospital. Mean age was 8.7 years (range: 10 months to 16 years). Patients were classified by type of hemophilia and the severe type was the most frequent (9 of 20 patients; Table 1). The reason for circumcision was religious for all patients. All patients received the pre-established anti-hemorrhagic follow-up protocol. All surgical procedures were performed in the operating room by two experienced senior surgeons using two different surgical techniques.

The guillotine technique with a loose transient tourniquet was performed in 10 patients (Figure 1, Figure 2), and the two-stage mucocutaneous section technique under guide clamp was likewise performed in 10 patients (Figure 3, Figure 4). Mean operative time was 39 minutes (range: 29 to 52 minutes). We noted no particular hemorrhagic incidents. Mean length of hospital stay was 4 days (range: 1 to 13 days). The complications found are summarized in Table 2 below and were dominated by postoperative hemorrhage, followed by infections. Three patients were readmitted: 2 with a hemorrhagic complication and one with an infection.

Discussion

Perioperative management of hemophilia relies on a multidisciplinary team. Any procedure must be as atraumatic as possible in order to reduce risks, in particular hemorrhagic accidents that may be life-threatening [5, 6]. In the literature, mean age was 7.15 years in the study by Diabaté [4], 7.6 years in that of Sylla [6], 18 months in that of Gnassingbé in Togo [7], and 10 years in that of Sagna published in 2017 [3].

In our series, mean age was 8.7 years. This age could be explained by the risks associated with surgery in hemophilic patients, which justify management in a specialized center. Hemophilia A was present in 16 patients, and a hereditary character was reported in 10 patients. Studies have reported sporadic forms in about 30% of cases, attributed to spontaneous mutation of the X chromosome [7, 8]. Severe forms are also reported as the most frequent category in the literature [1, 2]; in our study, they were likewise the largest group (9 of 20 patients, i.e., 45%), followed by moderate (6) and mild (5) forms.

These forms may be associated with more intraoperative and postoperative complications. Replacement therapy relies on administration of the deficient coagulation factor in order to achieve effective hemostasis. In our protocol, patients received a dose of 40 U/kg one hour before the procedure, followed by 40 U/kg every 24 hours for 48 hours, and 30 U/kg for any bleeding occurring beyond 48 hours (see Patients and Methods). Systematic antibiotic prophylaxis with oral amoxicillin at 50 mg/kg for ten days was also given. Access to coagulation factor concentrates may be limited in some settings, where the use of fresh frozen plasma carries in particular a risk of volume overload. Current management favors administration of the deficient factor in concentrated form and appropriate biological monitoring. Complications depend on several factors, notably the operator, but also the sociocultural context, precariousness, and access to healthcare facilities. Circumcision in hemophilic patients is a delicate procedure because of the increased hemorrhagic risk [7].

The two techniques used in our series aimed to optimize hemostatic control. Two-stage mucocutaneous section allows progressive control of bleeding with electrocautery, first at the subcutaneous level, then at the mucosal level. Hemostasis was completed with two hemi-running sutures of 5/0 Vicryl. The guillotine technique with transient tourniquet also limits bleeding and achieves satisfactory hemostasis. In our series, the two techniques appeared to have comparable efficacy in terms of hemostasis, and complications were similarly distributed between them. In general, hemorrhagic accidents are an important cause of morbidity in hemophilic patients. Spontaneous manifestations of severe forms are mainly hemarthroses and, more rarely, visceral or cerebral hemorrhages [4, 6]. After circumcision, hemorrhagic complications may present as bleeding or hematoma and lead to acute anemia, or even hemorrhagic shock. Surgical exploration may be necessary to ensure hemostasis; in hemophilic patients, correction of the coagulation factor deficiency is also essential. In case of significant blood loss, transfusion may be indicated.

Conclusion

The anti-hemorrhagic protocol used in our series gave results considered satisfactory. Conventional circumcision requires adaptation in hemophilic patients because of the hemorrhagic risk. The guillotine technique with a loose transient tourniquet and progressive release, as well as the two-stage mucocutaneous section under guide clamp, allowed hemorrhagic control considered acceptable. The results of this series suggest comparable efficacy of the two techniques, but the small sample size does not allow conclusions of equivalence.

Table 1: Distribution of patients by severity of hemophilia

Type of hemophilia	Number
Severe hemophilia	9
Moderate hemophilia	6
Mild hemophilia	5
Total	20

Table 2: Postoperative complications

Complications	Number
Postoperative hemorrhage	3
Infections	2
Suture dehiscence	1
Delayed healing	1
Total	7



Fig 1: A: Placement of the intermittent tourniquet, B: Clamping of the foreskin above the glans

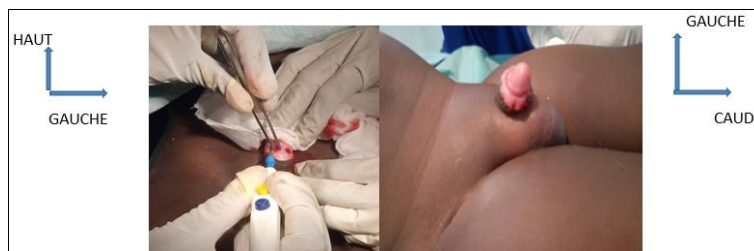


Fig 2: A: Hemostasis and progressive release of the tourniquet, B: Final appearance of the circumcised penis



Fig 3: A: Clamping of the foreskin above the glans, B: Incision of the foreskin skin, leaving the mucosa for progressive hemostasis



Fig 4: A: Progressive hemostasis of the mucosa, B: Section of the mucosa, removing the foreskin, C: Final appearance of the penis after circumcision

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