



Layered Dissection Technique of Prepuce for Circumcision in Male Children

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ABSTRACT:- Male circumcision is done very frequently in all Pediatric surgery set up. Though several open and device based techniques of circumcision have been described in literature but no single procedure is taken as gold standard in terms of prevention of complications. In our country most of the centers prefer open technique in comparison to device technique simply due to non availability of device. The two layer dissection technique used helps in preventing common complications of open technique for male circumcision. The technique is described with its merits and demerits. In our experience this technique is safe, mostly complication free and gives good cosmetic outcome.

Keywords:- Circumcision, device, Open technique, Two layer dissection.

I. INTRODUCTION

World over Circumcision is a frequently performed surgical procedure in male children. Many surgeons practice it in their own style though there are few standard open techniques described in text books. There are therefore several methods and each of the methods has its merits and demerits.(1,2) The aim of all these surgical techniques is to give a complication free good cosmetic and functional result. In our center we have started practicing the technique of two layered dissection of prepuce in order to achieve the above goal and found it to be an easy and complication free open technique giving good cosmetic result. We feel it can be practiced as a standard surgical technique for circumcision in children.

We term this method as layered dissection technique of prepuce for male circumcision. This article describes the detail technique with its merits and demerits based on our experience.

II. MATERIAL & METHOD:-SELECTION CRITERIA

Healthy, male neonates, Infants and children having intact prepuce requiring circumcision on medical or religious grounds are selected. Male children having paraphimosis, severe adhesive balanoposthitis with scarring of prepuce or bleeding disorders are excluded.

Technique

Pre-operative Preparation

Routine blood investigations like CBC, Bleeding time, Clotting time, Blood urea & serum creatinine, random blood sugar are done and child is prepared for IV sedation with caudal block. After caudal block (which takes almost 10-15 minutes for its optimum effect) the child is positioned supine with legs little apart and cautery plate placed under the buttocks. The penis and the adjoining area is prepared with povidone iodine and draped, with a single long sterile sheet with central whole.

III. OPERATIVE STEPS

1. Narrow prepuce opening identified and dilated with 2% lignocain jelly using the tip of a curved mosquito Artery forcep. Then the prepuce is everted using gentle force, separating its adhesions from glans up to the corona glandis. All the smegmal deposits are cleaned using normal saline, followed by cleaning with povidone iodine soaked wet gauze. After this the prepuce is retracted back over the glans penis.

2. Now the glans groove is identified and using skin marker pen a circular marking is made little above the groove all around the penis for skin incision. Two artery forceps are applied on either side of prepuce opening and skin incision is given using scalpel all around the prepuce skin at the site of marking. (Fig:1)
3. The outer layer of the skin is gradually dissected out from the prepuce mucosa using sharp dissection and with help of bipolar cautery in very low coagulation set up till the outer layer is separated distal to the glans tip. (Fig:2)
4. At this stage the tip of the glans is well identified underneath the thin inner layer of prepuce. Then the inner layer of prepuce is divided on its ventral aspect (at the level of glans tip) keeping traction on two Artery forceps. Here the frenular artery is also divided & the bleeding point coagulated using bipolar cautery.
5. Now through cut window of prepuce mucosa at the ventral aspect, the glans is well visualized. Using a curved dissecting scissor the prepuce mucosa is being cut all around the glans keeping the sleeve margin of 0.5 cm from the corona glandis. Here little bleeding may occur from the cut prepuce mucosal, which is controlled with pressure.(Fig:3)
6. Next frenulum is divided & homeostasis maintained. Then apposition of skin to mucosa is done using 6.0 chromic catgut with micro point needle, in order to avoid suture scar formation. (Fig:4,5)
7. A pressure dressing of sofra tulle gauze is placed all around the coronal suture line for first 24 hours. The whole procedure takes 30-35 minutes on an average, with minimal blood loss.(Fig:6)

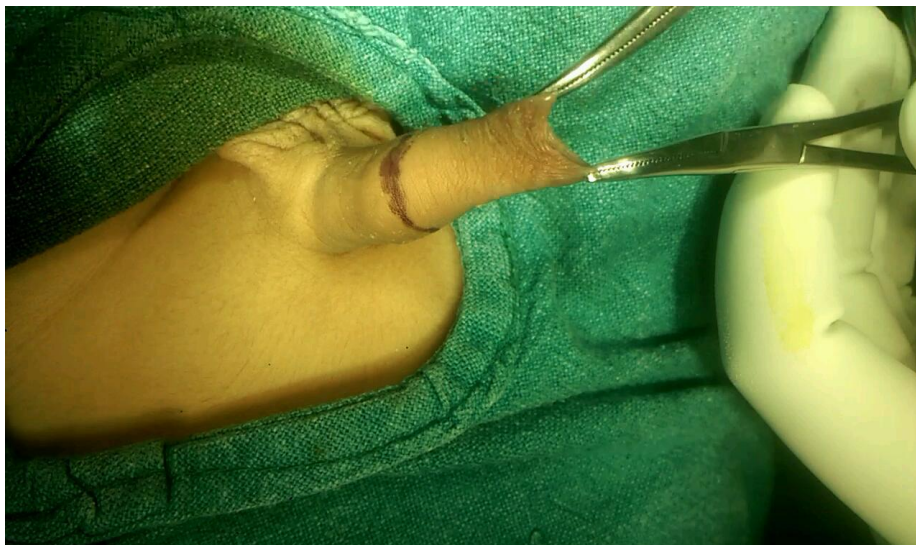


Fig:1 skin incision marking of prepuce skin



Fig:2 Outer layer dissection

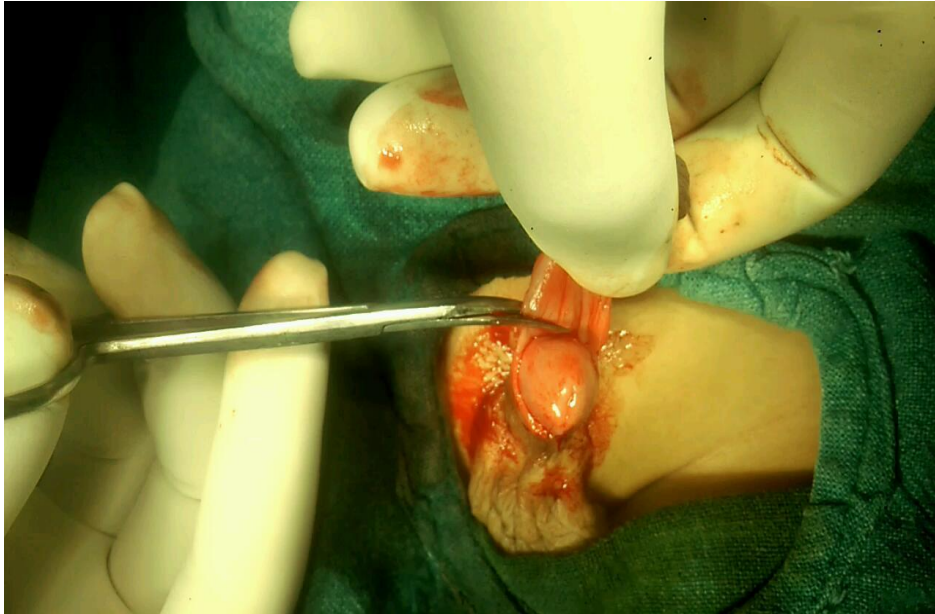


Fig: 3 Inner prepuce mucosa cut around glans



Fig:4 Final shape after circumcision



Fig: 5 catgut apposition of skin mucosa



Fig: 6 pressure dressing of suture line

IV. POST OP-CARE AND FOLLOW UP

In immediate post operative period after the caudal block analgesia is over child is given either Diclofenac or paracetamol suppository at 8 hourly intervals to keep the child pain free. Then Ibuprofen plus paracetamol syrup is given for next 5 days. Oral feeding starts after 2-3 hours once the consciousness is fully gained and the child is discharged home. After 24 hours the wound is kept open and neosporine ointment applied at intervals for 7-10 days. The child is followed up after 10-15 days and then after 6 weeks to see for the outcome.

V. DISCUSSION

In layered dissection technique the two layers of prepuce are dissected and cut separately. The bleeding points are therefore coagulated meticulously (during layered dissection) resulting in less incidence of reactionary hemorrhage or hematoma formation.

Over the cut outer surface of the prepuccial mucosa Frenular artery is well identified, easily coagulated without the danger of injuring the glans or urethra and there by avoids the conventional 'U' switch. In this technique direct incision over the penile shaft (Buck's Fascia) using sharp knife as done in other sleeve techniques is avoided. The marking of the outer skin and trimming of prepuccial mucosa under vision avoids the problem like excessive excision or redundancy of prepuccial skin or mucosa. The two layered dissection of prepuce almost produces a blood less field while suturing the proximal penile skin to prepuccial mucosa.

In our practice of 208 circumcisions one patient had hematoma formation at the site of dorsal penile vein and needed re-exploration & ligation of bleeding vessel. No injury of glans or urethra has been noted. For beginners it needs little bit of carefulness to identify the tip of the glans and safely divide the prepuccial mucosa at the level of Frenulum away from the glans tip. Circumcision methods can be classified into one of three types or combinations there of; dorsal slit, shield & clamp and excision (3,4). Usually it is cosmetically unacceptable to carryout dorsal slit alone without excising the prepuce. In most of the open procedures the dorsal slit to widen the prepuccial ring (5) is being combined with excision of prepuce resulting in more blood loss. But in two layered dissection method after peeling off the outer skin the inner prepuccial layer can be easily slited open to separate it from glans hence avoids the procedure like dorsal slit. Shield and clamp adopts the use of device obviating the use of knife in majority of cases. Though a commonly practised method worldwide, it is no more in use because of the lack of availability of device. The dorsal slit-sleeve technique is a effective technique used in some centers with good outcome. The disadvantage of the method is that, it has a learning curve. It is fraught with more complications in the hands of non experts.(6)

VI. CONCLUSION

Two layered dissection technique for male circumcision emphasizes on meticulous homeostasis, including that of Frenular Artery. It avoids certain conventional steps of open circumcision like Dorsal slit and 'U' stich for ligating frenular artery. Injury to glans penis and urethra are almost preventionable in experienced

hands. Overall it produces a good cosmetic result. This procedure can also be practiced in adults provided scarring and prepuce to glans adhesion is not much.

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