

CIRCUMCISIONAL INJURIES: A NEGLECTED NEGLIGENCE

Mohammad Aslam, Abdul Majid, Naeem Mumtaz

Plastic Surgery and Burn Unit, Cardiovascular Unit, Surgical C Unit
Lady Reading Hospital, Peshawar - Pakistan

ABSTRACT

Objectives: To describe the spectrum and management of circumcisional injuries.

Material and Method: It was a two years (January 2006 – December 2007) descriptive study. All patients with complications of circumcision, presenting immediately or late and fulfilling the inclusion criteria were included in this study.

Results: A total of 24 patients were included in this study. Common complications in order of frequency were urethrocutaneous fistula 8(33.3%), glans injury 6(25%) and bleeding 5(20.8%). In majority of cases 20(83.33%), the circumcision was performed by unqualified circumciser.

Conclusion: In our country majority of circumcisions are performed by traditional untrained persons with high complication rate, often disastrous one. Properly training the paramedical staff can not only reduce the physical morbidity but will also save the resources spent on management of these potentially preventable complications.

Key words: Circumcision, Complications, Injuries.

INTRODUCTION

Circumcision is the oldest surgical procedure practiced by mankind. Discovery of circumcised mummies and pictorial depiction of circumcision on the relief of tombs near Cairo are ample proofs that it originated more than 6000 years ago in Egypt, as a religious ritual¹. World over it is practiced for medical, cultural, religious and cosmetic reasons. In Muslim and Jewish communities it is practiced as a religious rite. In African tribes it is considered as symbol of manhood and is performed at puberty². In USA, about 80% of the males are circumcised for medical reasons³.

Presently, about 25% of the total world male population is circumcised, making it the commonest surgical procedure world over⁴. Although circumcision is considered as a 'minor procedure' it carries a risk of complications. The reported rate of complications varies between 0.06 %-55 %. The literature abounds with reports of morbidity and even death has been reported after circumcision⁵.

In Pakistan, almost every Muslim male child undergoes circumcision, between neonatal period to puberty. Due to local cultural and economic reasons and poor health care system, 85-

90 % of these circumcisions are performed by traditional circumcisers, barbers, untrained paramedical staff and other laypersons⁶. With no medical training of whatsoever, these circumcisers perform the procedure without even considering the basic surgical principles. A very high complication rate is not surprising in this scenario. Little attention has been paid to the complications of circumcision in Pakistan and medical literature on this topic is almost nonexistent.

Plastic Surgery Unit Hayatabad Medical Complex is specialized facility of its kind in the NWFP province. Patients are referred from all over the province for reconstruction and repair including the circumcisional injury victims. Purpose of this study was to evaluate the spectrum of circumcisional injuries, their management and final out come.

MATERIAL AND METHODS

It was a two years (January 2006 – December 2007) descriptive study. All patients presenting with acute or chronic complications of circumcision during the study period were included in this study. Acute complications included events immediately following circumcision e.g., bleeding, penile or glans injury, urethral injury and retention of urine. Chronic complications included fistula,

meatal stenosis, excessive excision of penile skin and adhesions attributed to the circumcision. Circumcisions performed as a part of Hypospadias or Epispadias repair were excluded from the study. Study period was from January 2006 to December 2007 (two year). Manual and electronic data of all patients was maintained. Pre and post operative photographs of all patients were taken along with informed consent. All patients were asked to come for follow up at 2 weeks, 3 months, 6 months and at 1 year post operatively. Apart from demographic data, the information recorded was, time since circumcision, qualification of circumciser, type of injury, previous treatment/ surgery, surgery or other management performed, associated anomaly, out come at follow up visits and any complication.

RESULTS

A total of 28 patients with circumcisional injuries were admitted to Plastic Surgery Unit Hayatabad Medical Complex Peshawar during the study period (Jan 2006 – Dec 2007). Patients with minimum follow of 6 months were included in this study. Four of these did not fulfill the follow up criteria and were excluded from the study (2 patients with bleeding and 2 with fistula). Hence, a total of 24 patients comprised this study. Type of injury of these patients is given in Table No I.

Table I: Type of Circumcisional Injuries

No	Type of Injury	No (%)
1	Urethrocutaneous Fistula	8 (33.3 %)
2	Glans Injury	6 (25 %)
3	Bleeding	5 (20.8%)
4	Adhesions	2 (8.32%)
5	Buried Penis	2 (8.32%)
6	Urinary Retention	1 (4.16%)
	Total	24(100%)

Mean age at presentation was 5.7 years (range 2 months to 12 years). Only 9 patients (37.5 %) presented with in 6 hours of injury (5 bleeding and 4 glans injury). Half of the total patients belonged to Peshawar district. Associated genitoperineal congenital anomaly was present in 4 patients (16.66 %). These included megalourethra in two patients and micro phallus and extra-pubic fat in one patient each. Out of total 24 patients only 4 circumcisions were performed by qualified doctors (16.66 %). Of 4 patients having congenital anomalies (one magalourethra and one extra-pubic fat) (Figures 1 and 2).



Fig: 1a Glans injury Pre-op



Fig: 1b Pre-op end on view



Fig: 1c Amputated glans with skin



Fig: 1d 6 months Post-op



Fig: 1e 6 months Post-op end on view



Fig: 2a Glans injury Pre-op



Fig: 2b Glans injury Pre-op ventral view



Fig: 2c Post-op after two staged repair



Fig: 2d Post-op end on view



Fig: 2e Post-op ventral view

Six of the total 8 patients with fistula underwent simple purse string closure which was successful in 5. One which had recurrence was twice operated for the same problem elsewhere previously. Rest of two fistula patients had glans injury also and they both underwent urethroplasty as in Stage II of Aivar Bracka repair⁷. Of the six patients with glans injuries only 4 presented within six hours of the accident. In all four the amputated parts of the glans were reattached after minimal debridement. Three of the reattached glans survived fully but one had partial loss which

healed with acceptable cosmetic results. Two glans injuries presented after more than 24 hours delay and they underwent modified two stage Aivar Bracka repair successfully. All five patients, presenting with bleeding needed haemostasis with the help of bipolar coagulation. One of these patients also needed blood transfusion. Over excision of the penile skin along with prepuce had been done in 2 patients with buried penis. Both were released by circumcoronal incision and skin grafted. Reasonable phallus length was achieved by this procedure in both. One patient who

presented with urinary retention had cotton bead embedded in external urinary meatus. Retrieval of the cotton bead relieved the retention. Cotton was probably applied to stop the bleeding (Figures 3 and 4).



Fig: 3 Megalourethra with glans and urethral injury



Fig: 4a Urethrocutaneous fistula Pre-op



Fig: 4b 6 months Post-op

DISCUSSION

Circumcision has been practiced as a religious ritual since the prehistoric era⁸. With almost one fourth of the total male population circumcised, circumcision remains the commonest

operation performed all over the world⁴. Although it is technically simple, it results in a large number of complications. Complication rate goes much higher when this procedure is performed by untrained traditional circumcisers. Numerous studies from the across the world, including Pakistan⁹, Iran¹⁰, Iraq¹¹, Turkey¹², Jordan¹³ and Egypt¹⁴ reveal that most of the circumcisions are performed by untrained traditional circumcisers, usually a barber.

In our series 20 cases (83.33 %) were circumcised by untrained persons. Complication severity following circumcision can vary from trivial to tragic one. Similarly, the complication rate can also vary. Although a complication rate as high as 85 % has been reported recently from Turkey¹⁵, the commonly reported rate ranges from 1.5 – 35 %¹⁶.

Unfortunately, total complication rate of circumcision can not be inferred from this study as we neither know the total number of circumcisions performed during the study period nor we know the complications referred to other specialties. This study only reflects a Plastic Surgery perspective and should be taken as such. Many patients with acute circumcisional injuries are also managed in other specialties like casualty departments, general surgery, urology and paediatric surgery units.

Urethrocutaneous fistula was the most common complication present in one third of our total patients. The usual cause of fistula is either entrapment of urethra in the clamp or inadvertent strangulation of urethra in a stitch while trying to secure haemostasis. Fistula is an uncommon complication of circumcision with an incidence of 0.5 %¹⁵, although in specialized centers, incidence of referral may be more than 50 % of circumcisional injuries¹⁴. We think that such a high fistula rate in our series is not because of high incidence rather because of high referral rate. Our center is reputed for hypospadias surgery and many fistula patients after failed attempts are also referred to us. Our success rate after fistula repair was 87 % with only one failure. This out come is in agreement with other reports¹⁴.

Glans injury is a devastating circumcisional trauma with a possible life long negative impact on victim's physical and mental health. Incidence of glans injury, as high as 3 %, has been reported⁴. 6 of our patients (25 %) had glans injuries. Four of these patients presented to us in less than 6 hours of injury and reattachment was successful in three of them. The fourth one with minimal graft loss healed on conservative measures. Due to good blood supply of the penis excellent graft take occurs, if applied with in 8 hours of injury¹⁷. We were lucky to get 4 cases

with in this time period. Several reports with successful reattachments of the glans have been published in literature^{18, 19}.

Bleeding is the most common complication associated with circumcision. Reported incidence varies between 1-52%^{1, 20}. Mostly it is insignificant and controlled by simple measures like gentle pressure, adrenalin soaked pack application and proper dressing. If these measures fail, suture ligation and coagulation with bipolar electrocautery is resorted.

In our study only 5 (20.8%) patients presented with bleeding. In all of them simple measures, tried elsewhere, were unsuccessful, therefore bipolar cautery was successfully used to secure haemostasis. Bleeding and clotting time were within normal range in all of them. Only one patient needed blood transfusion due to haemodynamic instability.

Bleeding is the third most common cause of presentation in our series in contrast to others^{5, 16}. Reason being, that most cases with acute bleeding are dealt by other specialties and only patients needing reconstruction are referred to us.

Congenital abnormality of the genitalia is a recognized risk factor for circumcisional injuries²¹. 16.66 % of our patients have congenital anomaly, two with megalourethra and one each with micro phallus and extra pubic fat. This altered anatomy can lead to error of omission and commission even in experienced hands²². For prevention of any circumcisional injury it is essential to identify the anatomy clearly before excising any tissue. In two of our cases even qualified doctors failed to appreciate the anomaly, ending up in urethral and glans injuries.

We did not include meatal stenosis cases in our study, although, we have been dealing with the cases of isolated meatal stenosis quite commonly. We think that meatal stenosis is an insidious process caused by variety of reasons including infection and trauma other than circumcision. It is very difficult, if not impossible, to identify those following circumcisional injuries. The reported incidence varies greatly due to these reasons and ranges between 0.9-17 %^{1, 5, 10}.

Due to sociocultural and economic reasons, most circumcisions in Pakistan are performed by untrained laypersons resulting in high complication rate. These complications ultimately end up as undue burden on tertiary care hospitals, where resources are already depleted. Unfortunately, this negligence is persistently being neglected by the concerned authorities. It is the right time to formulate a comprehensive policy to deal with these potentially preventable

complications. A possible solution to this problem can be attained by following the Bradford Hospital's NHS Trust example, where nurses are trained to perform circumcisions on no profit and cost only basis²³. In our country paramedical staff and possibly traditional circumciser can be trained to perform circumcision.

CONCLUSION

Circumcision is the most common surgical procedure performed in the male population world over. In our country, most circumcisions are performed by traditional circumcisers with high complication rate. These complications not only impart physical impairments but also cause significant burden on our meager health resources. By properly training our paramedical health workers, these complications can be prevented.

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Address for Correspondence:**Dr. Mohammad Aslam**

Assistant Professor

Plastic Surgery Unit,

Lady Reading Hospital, Peshawar - Pakistan