

# POST CIRCUMCISION BLEEDING IN PATIENTS PRESENTED TO A TERTIARY CARE HOSPITAL, IGNORANCE IS NOT ALWAYS A BLESSING

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## ABSTRACT

**Background/purpose:** Circumcision is most neglected surgical procedure and commonly performed by barbers and inexperienced health care staff who even doesn't know pre-requisite of procedure. The objective of this study is to find out the aetiology post circumcision bleeding, its management and to propagate awareness among the community.

**Method:** This prospective observational study was conducted from January 2014 to January 2018 in pediatric surgery unit of the Khyber Teaching Hospital which include 510 patients. Parents/care giver were interviewed regarding the cause of the referral, operating person, anaesthesia given for procedure, family history of bleeding disorder. Demographic and clinical data of all patients referred with post circumcision complication was collected and analysed.

**Results:** Total of 510 patients with post circumcision complication were referred to the pediatric surgery unit which include 60.8% cases from local areas inside district Peshawar while 39.2% cases from other areas of the province and tribal areas. Children circumcised by quacks 51%, by barbers 19%, by GPs 19.6% and by surgeons 10.4%. Regarding technique bone cutter method was practiced in 70.6%, barber method in 19%, platibell method in 2.94%, open technique in 7.58%.

On arrival 4% patients were critical, 21.5% were in serious condition and 74.5% in stable condition. 74.5% patients were managed as out patient and 25.5% needs admission for treatment. Among admitted patient 73.8% needs transfusion of blood and blood products, 23.1% needs general anesthesia after stabilisation to secure bleeding, 3.1% needs combine efforts with ICU and paediatric medicine team to manage the patient. Those who are managed as outpatient were treated with simple dressing (42.1%), adrenaline soaked dressing (24.5%), stitch taken under local anesthesia (18.4%) and reassurance of parents done in 15% cases.

**Conclusion:** Post operative bleeding is major complication of circumcision and if not managed in time can lead to critical condition. Circumcision should be performed by a trained doctor and people should be educated about the possible consequences of malpractice common in this procedure.

**Keywords:** Circumcision, plastibell, Barber surgeon.

## INTRODUCTION

Circumcision is most commonly practiced elective procedure in Muslim countries like Pakistan for religious, traditional and rarely medical reasons<sup>1,2</sup>. This procedure has its opponents and proponent. Proponent favour circumcision as it decreases risk of urinary tract infection, HIV, penile cancer, zipper injury, phimosis, cervical cancer in female partner. Circumcision is most commonly performed by barbers, non medical personnel, health care staff and doctors. People consider circumcision as an ordinary minor procedure which can be

performed by any person. Many techniques are applied for circumcision, which include bone cutter method, open technique, plastibell and gomco clamp<sup>3</sup>. Due to lack of proper protocol everyone has its own standard for this procedure, even we have no standard guideline among doctors performing this procedure. The reported incidence of complication is upto 50% which is very high. Complication of the procedure includes bleeding, infection, meatitis, meatal stenosis, post circumcision fistula, injury to the glans<sup>4,5</sup>. Post circumcision bleeding is most common complication. Bleeding can be minor or major. Major bleed can lead to critical condition. Patient with bleeding disorder usually presents with major bleeding as the inexperienced can not evaluate this contraindication for the procedure<sup>6,7</sup>. This study is focused to evaluate the factor responsible for this dangerous complication of circumcision, its management and to educate people regarding the procedure.

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## MATERIAL AND METHODS

This study was conducted in a specialized unit of paediatric surgery in Khyber teaching hospital. Study

period starts from January 2014 to January 2018. All referred children with post circumcision bleeding were included in the study. Circumcision done inside this institution was excluded from the study. Parents/care giver of the patients who doesn't know the detail of patients were also excluded from the study. Data of all patients was collected through a predesigned proforma. A detailed history regarding circumcision was taken from Parents/care giver, which include information of age, address, type of procedure for circumcision, indication of procedure, type of analgesia used, the operating person, any family history of bleeding disorder and cause of referral to specialized unit.

## RESULTS

Total of 510 cases referred to specialized unit of pediatric surgery, Khyber teaching hospital with post circumcision bleeding. Referral with post circumcision bleeding is inside district and from far-flang areas of the province of Khyber pukhtunkhwa(KPK) and federally administer tribal area (FATA). 60.8% referral were from inside district and 39.2% from outside district, which include all areas of KPK and FATA. Age distribution of these patients are given below in (Fig 1). Children circumcised by quacks 51%( 260 out of 510), barbers 19%(97 out of 510), GPs 19.6%(100 out of 510) and surgeons 10.4% ( 53 out of 510) (Fig 2).

Technique adapted mainly depends on operator. Bone cutter method was practiced in 70.6%(360 out of 510), barber method in 19%(97 out of 510), plastibell method in 2.94%(15 out of 510), open technique in 7.58%(38 out of 510).

On arrival patient status were assessed and 74.5% patient were in stable condition, 21.5 were serious, 4% critical due to severe bleeding.

Bleeding from a vessel with unable to secured hemostasis is the main cause in upto 76.5% ( 390 out of 510), 15 % children had deranged clotting profile, 2.9 % had sever injury to the glans leading to bleeding, 1.37% were know haemophilic and 4.1% include other causes like plastibell slippage, parents anxiety, re-trauma etc. Out of 510 patients 380 were treated as an outpatients and 130 needs admission due to unstable condition. Out of admitted patient 73.8% received blood and blood products to stabilise the patient, 23% needed were shifted to operation theater for secure hemostasis under general aneshthesia, while 4 patients with hemophilia treated as combined effort with paed medicine and intensive care unit. Among non admitted patients 42.1%( 160 out of 380) children were treated with simple dressing of wound, 24.5%( 93 out of 380) were treated with adrenalin soaked dressing of wound, 18.42%( 70 out of 380) patient stitch was taken under local anesthesia to secure bleeding and bleeding has stopped in 15% of patient while the reach hospital or they had very minor issue.

**Table 1: Treatment received by patients of post circumcision bleeding**

Table1 : Management of patients with post circumcision bleeding	
Admitted patients 130 (25.5%)	Treated as outpatient 380 (74.5%)
1) 73.8%(96 out of 130) Received transfusion of blood and blood products.	1) 42.1%(160 out of 380) Patients bleeding stopped with pressure dressing.
2) 23.1%(30 out of 130) Shifted to operation theater to secure bleeding under GA.	2) 24.5%(93 out of 380) Bleeding was secured with adrenalin soaked dressing.
3) 3.1%(4 out of 130) Required multidisciplinary approach with paed medicine and ICU to secure bleeding.	3) 18.5%(70 out of 380) Stitch was taken under local anesthesia to secure bleeding
	4) 15%(57 out of 380) Minor bleed which spontaneously stopped. Reassurance done.

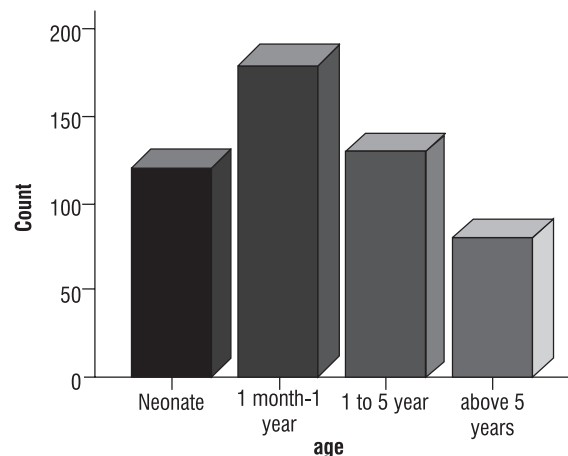


Fig 1: Age distribution of patient

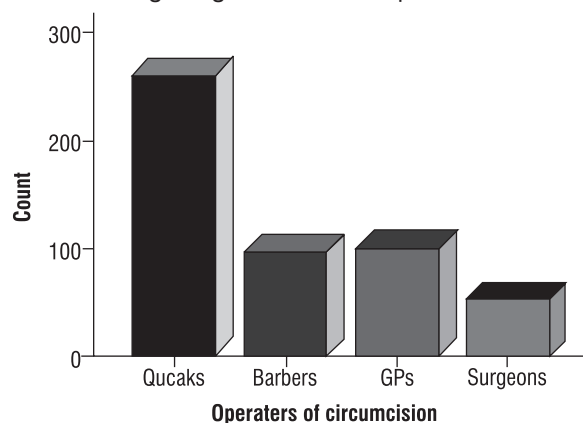


Fig 2: Operator of circumcision.

## DISCUSSION

Circumcision is a commonly practiced procedure in Muslim countries like Pakistan and currently on the rise in the western world as well. The possibility of potentially dangerous complications are not highlighted and needs proper attention<sup>8,9</sup>. Like other surgical procedure circumcision has its own complications. Rate of complications depends on country, indication for circumcision, operator performing the procedure, environment, economic status and comorbidities. These factors explain a high range of complication with incidence ranging from 0.2% to 55%<sup>10,11</sup>. Early complication of circumcision are bleeding, glans injury and infection while late complications include meatitis, meatal stenosis, fistula<sup>12</sup>.

Bleeding is the most common complication and its reported incidence varies from 0.1 to 38%. Minor bleeding can be controlled with pressure dressing and major bleeding will need suturing under local or general anesthesia. Procedure done by inexperienced people is the main cause leading to this condition. Current study focused on post circumcision bleeding which is the most common reason for referral to a tertiary care unit.

Circumcision is a traditional ceremony in our country and in rural areas considered as 1<sup>st</sup> sign to become 'man'. The most common age of circumcision is under one year and current study shows 59% cases below one year. There is no ideal age for circumcision and literature review is favouring circumcision in the first 2 months of life. However in case of premature this can be further delayed.

Due to low level of literacy people follow oldest family tradition and circumcised their children by nearest operators available without considering the qualification of the operator. In Pakistan 5-10% circumcision were performed by surgeons<sup>13</sup>. The current study shows 70% circumcision done by quacks and barber who presents with bleeding to a tertiary care hospital. Low expenditure, trouble-free access, non-availability of doctor, lack of health facility in nearby area, past practice, lack of education were the main reason for such high rate of circumcision done by barber and quacks<sup>14,15</sup>. They performed the procedure without prior history and investigation to look for deranged clotting profile or haemophilia.

Different techniques are practiced all over the world which vary between center and operator. Bone cutter technique, barber method, open method and plastibell method are commonly practiced in our province. Bone cutter technique is easy and safe in experienced hands but the chances of glans injury are common in inexperienced hands<sup>14,16</sup>. Chance of bleeding from bone cutter method is very high in our study which may be attributed to inexperience operator performing the procedure. Moreover 2.9% cases presented with

severe glans injury leading to severe bleeding and hospital admission. Plastibell technique is commonly practiced by pediatric surgeon and is gaining popularity. Its safety and efficacy has been published by many surgeons recently. Loose tie of thread in Plastibell technique is main cause of bleeding<sup>(1, 8, 16)</sup>.

Severe blood loss occurred after circumcision in children with bleeding disorder<sup>(17)</sup>. Another study has reported hemophilia in 48.5% of patient who presented with post circumcision bleeding<sup>(18)</sup>. List of disorders include congenital deficiency of clotting factor, hemorrhagic disease due to vitamin K deficiency, liver dysfunction<sup>(17, 19)</sup>. Surgery performed by person who lacks the knowledge of these disorders will result in major bleeding. Current study also highlighted this issue and reports 15% cases performed by quacks and barber with bleeding disorder and then referred to a tertiary care for management.

In conclusion circumcision in children is not a minor procedure that can be practiced by inexperienced persons. Circumcision should be performed by an experienced doctor who can evaluate the child before the procedure, know the contraindications of the procedure, can manage complications and who can follow patient post procedure. Circumcision by inexperienced persons should be discouraged and people should be educated regarding the complications of the procedure if performed by inexperienced person.

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