

## CIRCUMCISION TRENDS IN PAKISTAN

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### ABSTRACT:

**BACKGROUND:** Circumcision is the most widely performed surgical procedure in Muslim countries like Pakistan. It is performed by a variety of health care providers and different surgical procedures are employed.

### OBJECTIVES:

The aim of the study was to analyze the trends of circumcision by medical specialty including the types of surgical techniques, usage of analgesia, complications and post-operative care employed by the various practitioners.

**STUDY DESIGN:** Cross-sectional survey

### METHODS:

A questionnaire asking about practices in the circumcision of neonates was sent to 150 health care providers including urologists, general surgeons, plastic surgeons, pediatrics surgeons, pediatricians, gynecologists and general practitioners in major cities of Pakistan. We received 90 replies. Details regarding the preferred techniques, type of analgesia, post operative care and complications were enquired about. The results were tabulated and analyzed.

### RESULTS:

A total of 90 questionnaires were received from health care providers. The popular surgical technique for circumcision is with bone cutter which is used mainly by GPs and general surgeons. Plastic surgeons and urologist prefer the open dissection method. Most of the pediatrics surgeons apply the plastibell device. Pediatricians & gynecologists used the Gomco clamp. Most people used no analgesia. Pediatric surgeons and urologist used dorsal nerve block with paracetamol suppositories. Commonest complication noted was bleeding followed by superficial infection. Injuries to the glans or urethra were rare but serious complications.

### CONCLUSION:

Circumcision with plastibell is the procedure of choice with a low rate of complications. This is used by most of the pediatrics surgeons. Bone cutter procedure is used by general surgeons and general practitioners. Bleeding is most common complication among all.

**KEY WORDS:** Neonatal circumcision, plastibell, Bone cutter, Gomco Clamp, Mogen Clamp.

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### INTRODUCTION:

The practice of male genital mutilation is far older than recorded history, mummies 6000 years old showed evidence of circumcision<sup>1</sup>.

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Certainly, it is far older than the Biblical account of Abraham. It seems to have originated in eastern Africa long before this time. The Jews adopted circumcision as a religious ritual and preserved this prehistoric practice into modern times. The circumcision of Abraham removed only the very tip that extended beyond the glans penis. Moses and his sons were not circumcised. Although Moses apparently prohibited circumcision during the 40 years in the wilderness, Joshua reinstated circumcision at Gilgal after the death of Moses. In Egypt, circumcision was a ritual that transformed the youth into manhood. During early days of Christianity, circumcision was required for all converts. The Islamic religion also considers circumcision, therefore just as the Jews, Muslims should adhere to the covenant God revealed to Abraham.<sup>2, 3</sup> Neonatal circumcision is commonly performed using one of the six techniques, a shield which is used in the traditional Jewish circumcision, the Mogen clamp, the Gomco clamp, Bone cutter and the Plastibell device. Dissection method is also used for circumcision.<sup>4, 4A</sup> With all techniques careful selection and preparation of patients is essential. Informed consent must be obtained from the parents or guardians. Measures for creating an aseptic field, anaesthesia and positioning do not vary with the technique selected. Both the Mogen and Gomco clamps protect the glans while producing crush injury to the prepuce which is the surgical removed. The plastibell device induces necrotic tissue, which is sloughed off along with the plastic shield within a week or so. Although complications from neonatal circumcision are rare, haemorrhage, local infection, sepsis meatal ulceration and poor cosmetic results have been reported.<sup>5</sup> In Pakistan it is performed by Barbers, Technicians, Quacks, Urologist, general surgeons, plastic surgeons, paediatricians, paediatric surgeons, gynaecologists and general practitioners. Open dissection method and bone cutter is also used in our country by the most of health providers. Though using a bone cutter is a very dangerous method of circumcision because of the hazard of injury to glans and urethra and some time urethral fistula.<sup>6, 7</sup>

The objective of the study was to analyze the trends of circumcision by medical specialty including the types of surgical techniques, usage of analgesia, complications and post-operative care employed by the various practitioners.

#### **PATIENTS AND METHODS:**

A questionnaire containing closed ended items was mailed to 150 health care providers including urologists, general surgeons, plastic surgeons, pediatric surgeons, pediatricians, gynecologists and general practitioners working in major cities of Pakistan. Details regarding the preferred technique, usage of analgesia, post operative care and complications were inquired about. We defined health care provider as circumciser if he or she performed one or more circumcisions per month. We defined anaesthesia use as any method of anaesthesia or analgesia used to help alleviate intraoperative or postoperative pain. Questionnaires performed and results were analyzed by the  $\chi^2$  analysis and any significant results are reported at  $p < .05$ .

#### **RESULTS:**

The response rate was 60%. Almost all respondents (100%) are performing circumcisions (table I). Out of the 90 respondents, (n=30)33.4 % were paediatric surgeons, (n= 28)31.2% G.Ps, (n=10) 11.1% pediatricians, (n=5)5.5% urologists, (n=10) 11.1% general surgeons, (n=5)5.5% gynecologists and (n=2) 2.2% were plastic surgeons (Table.I).

GP (n=25) used no preoperative analgesia. Only (n=3) GP used local anaesthesia, while (n=28) used post operative analgesia in the form of syrup or drops. Paediatric surgeon (n=30) used local anaesthesia as DNB, ring block and (n=30) used post operative analgesia while (n=18) used combination of both local and oral analgesia at the time of operation. Pediatricians (n=10) used no preoperative analgesia. Only (n=10) used oral post operative analgesia. Gynaecologists used no analgesia during and after surgery. Plastic surgeons (n=2) used local analgesia preoperatively while (n=2) as combination. Urologists (n=5) used local analgesia before

procedure and (n=2) used combination of analgesia. General surgeons (n=8) used no analgesia during surgery but (n=2) used local analgesia during circumcisions. (Tables IIA,IIB)

Different techniques are used by circumcisers in Pakistan. Maximum use bone cutter technique while dissection method is used by minimum circumcisers. (Table III)

Post operative dressings used by the circumcisers. (Table IV) Sofratulle dressing are used by two surgeons, Tincture Benzoin Co dressings are used by 43 surgeons while 45 circumcisers use no post operative dressings. Post operative complications bleeding is seen in 10 patients, six patients got wound infection & two patients had plasti bell impaction. (Table IV)

**Table I(n=90) Percentage of Health care providers performing Circumcisions**

Health Care Providers	Number(n)	Percentage
Paediatric Surgeons	30	33.4%
General practitioners	28	31.2%
General Surgeons	10	11.1%
Paediatricians	10	11.1%
Urologists	5	5.5%
Gynaecologists	5	5.5%
Plastic Surgeons	2	2.2%

**Table II A(n=90)**

		Urologist	General Surgeon	Plastic Surg.	Gynae-cologist	Paediat-rician	GP	Paed. Surg.	Total	%
Analgesia (PreOp)	None		8		5	10	25		48	53.3
	Local anesthesia	5	2	2			3	30	42	46.7

**Table II B(n=90)**

		Urologist	General Surgeon	Plastic Surg.	Gynae-cologist	Paediat-rician	GP	Paed. Surg.	Total	%
Analgesia (Post Op)	Oral (P.op)					10	28	30	68	75.6
Analgesia Combine		2		2				18	22	24.4

**Table III(n=90)**

Technique	Urologist	General Surgeon	Plastic Surgeon	Gynae-cologist	Paediat-rician	GP	Paediatric Surgeon	Total	%
Bone Cutter		10				25		35	38.9
Dissection	4		2					6	6.7
Gomco Clamp				5	8			13	14.4
Plastibell	1				2	3	30	36	40
Total	5	10	2	5	10	28	30	90	100

**Table IV(n=90)**

Dressing	Urologist	General Surgeon	Plastic Surgeon	Gynae-cologist	Paediat-rician	GP	Paediatric Surgeon	Total	%
Sofra			2					2	2.2
Ticture Benzoin Co	5	10				28		43	47.8
None				5	10		30	45	50

**Table V (n=90)**

Complications	Urologist	General Surgeon	Plastic Surgeon	Gynaecologist	Paediatrician	GP	Paediatric Surgeon	Total	%
Bleeding	1	3				5	1	10	11.12
Infection		1				5		6	6.6
Injury						1		1	1.10
Bell Impaction							2	2	2.23

**DISCUSSION:**

Pakistan being a muslim country, the practice of circumcision is almost hundred percent. Now increasing trend of circumcision among non muslims in Pakistan is constantly increasing. In west this procedure is routinely performed by obstetricians & family practitioners without the benefit of anesthesia and analgesia<sup>8</sup>. While in Pakistan according to our study paediatric surgeons & general practitioners are doing this procedure mostly. The paediatric surgeons are performing circumcisions in higher number according to our study because of increasing knowledge of health and subspecialties in Pakistan. It is difficult to determine how fast this trend is changing because this study is the first of its kind in Pakistan to detail the circumcision practice patterns in Pakistan. The plastic surgeons who are performing circumcisions are very small in number in this study because the number of plastic surgeons is less in Pakistan at the moment.

The neonate's ability to experience and perceive pain has been documented. American Academy of Pediatrics has strongly recommended the use of pain killer for all neonatal surgical procedures. The most common reasons why anesthesia was not used, lack of awareness, pain response is insignificant and concern about safety. Unfortunately these misconceptions about anaesthesia for circumcisions prevents circumcisers from providing comfort for a very painful procedure. With a maximum dose of .8ml(8mg) of 1% Lignocain injected for dorsal penile nerve block(DPNB) even in 2.5-kg neonate would not be expected to show toxicity, because 7 mg/kg is lower limit of potentially toxic dose<sup>8, 9</sup>. In our study super specialist paediatric surgeons, urologists and plastic surgeons are using local anaesthesia for this painful procedure comparable with the

studies of Niazi S in 2012, Amir M in 2000 and Moosa FA in 2010<sup>7, 9, 10</sup>. General practitioners mostly do not use any analgesia probably because of ignorance of recent literature<sup>8</sup>. In this study 53.4% use no analgesia which is very high percentage, while 46.6% use local anesthesia and 75.6% use oral analgesia in the form of drops. Though 24.4% is using combination of local and oral analgesia. The studies show that neonates who under gone circumcision without analgesia have a severe pain response to vaccination at 4 and 6 months of age.<sup>11,4A</sup>

In this study 42.3% of neonatal circumcisions are performed by general practitioners and surgeons comparable with the study conducted by Mohammed Zafar Iqbal in 2010 showing that 57% of neonatal circumcisions were performed by GPs & surgeons<sup>6</sup>. A slight higher rate may be due to unawareness of subspecialties at that time. In this study 38.9% of circumcisions are performed with bone cutter comparable with the study conducted by Mohammed Zafar Iqbal in 2010<sup>6</sup>. Plasti bell circumcision are performed by pediatric surgeon in our study 40% is a much higher rate compared with the study of Mohammed Zafar Iqbal in 2010 showed 10% and Howard J.Stang and Leonard W.Snellman showed 19% in 1998<sup>6,8</sup>. Recently plastibell method gain popularity due to its good cosmetic results and less complications<sup>6, 10, 12</sup>. The percentage of circumcisions performed by health care provider with open dissection method and Gomco clamp are 6.7% and 14.4% respectively in this study, comparable with Mohammed Zafar Iqbal in 2010 showed 9.33% with open dissection method<sup>6</sup>. Postoperative dressings are used in open dissection method and bone cutter procedure. In our study sofra dressings 2.2% are being used by plastic surgeons in open method. Tincture Benzoin Co dressings 47.8% are used in bone cutter procedure mostly and 50%

health care provider do not use any kind of dressing postoperatively.

In this study the most common complication is bleeding 11.12% compared with the study of Rehman J. in 2007 and Mohammed Zafar Iqbal in 2010 showed 10% & 8% respectively <sup>6, 13</sup>. Post operative infection rate in this study turned to be 6.66% compared with Rehman J. in 2007 is 7% and 5% in the study conducted by Zafar Iqbal in 2010 <sup>6, 13</sup>. In our study slight less infection rate is due to better sterilization & procedure performed by expert hands. Pasti bell impaction seen in 2.23% in this study compared with a study conducted in 2010 by Helen A Weiss et all is 3.6% & 2.85% in a local study conducted by Foad Ali Moosa in 2010 <sup>10, 14</sup>. A study conducted by Mousavi SA and Salehifar E in 2008 revealed plastibell impaction rate was 2.1% comparable with this study <sup>15</sup>.

#### CONCLUSION:

Circumcision with plastibell is the procedure of choice with a low rate of complications and excellent cosmetic results. This is used by most of the paediatric surgeons. Bone cutter method was next common procedure of surgeons and general practitioners. Open dissecting method is least common procedure in this study used by plastic surgeons and urologists.

#### REFERENCES:

- Woodward LT. The history of Surgery. Derby. Co: Monarch. 1963:8
- Dunsmuir W.D, Gordon E.M. The history of circumcision: BJU international 1999;83,suppl.1: 1-12
- Rizvi S.A.H, Naqvi S.A.A, Hussain M, Hasan A.S. Religious circumcision: a Muslim view. BJU International 1999; 83 ,suppl. 1: 13-16
- Baskin LS. Circumcision. In: Baskin LS, Kogan BA, Hagwood S editors. Handbook of Pediatric Urology. Philadelphia: Lippincott Williams & Wilkins;2005.p 1-8.
- Stephen C, Raynor. Circumcision. In: Holcomb GW, Murphy JP, Ostlie DJ editors. Ashcraft`s Pediatric Surgery. Philadelphia: Saunders Elsevier;2009.P 791-95
- Perley JM. Shapiro SR. Complications of Circumcision In: DeVries PA, Shapiro SR editors. Complications of Circumcision. New York: John Wiley & sons.1982 p 475-81
- Iqbal MZ, Ali MZ, Masood S, Anwar M, Jahangir M, Irum S. Method of circumcision practiced in central Pakistan and their complications: JSZMC 2010; 1(2):21-24
- Niazi S. Ritual circumcision; neonates and young infants: Professional Med J 2012;19(5):611-614
- Stang HJ, Snellman LW. Circumcision practice pattenen in the United States : Pediatrics 1998;101(6): 1-6
- Amir M, Raja MH, Niaz WA. Neonatal circumcision with Gomco Clamp- a hospital based retrospective study of 1000 cases. JPMA 2000; 50:224
- Moosa FA, Khan FW, Rao MH. Comparison of complications of circumcision by `Plastibell device technique` in male neonate and infants: JPMA 2010; 60(8):664-67
- Taddio A,Goldbach M, Ipp M, et al. Effect of neonatal circumcision on pain responses during vaccination in boys. Lancet. 1995;.345:291-292.
- Jan IA. Circumcision in babies and children with plastibell technique an easy procedure with minimal complications; experience of 316 cases: Pak j Med Sci 2004;20(3):175-180
- Rehman J, Ghani U, Shahzad K, Sheikh IA. Circumcision- a comparative study. Pak Armed Forces Med J 2007;57(4):286-88
- Weiss HA, Larke N, Halperin D, Schenker I. Complications of circumcision in male neonates,infants and children: a systematic review: BMC Urology 2010; 10:2:1-13
- Mousari SA, Salehifar E. Circumcision Complications Associated with the Plastibell Device and Conventional Dissection Surgery: A trial of 586 infants of ages upto 12 months. Adv Urology 2008; 2008: 606123 5p

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