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A Critical Evaluation of Circumcision in the Western Region, Saudi Arabia

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ABSTRACT. In muslim communities, circumcision is a highly recommended religious procedure and is the commonest surgical operation. However, it is still considered a minor procedure, therefore, there is no comprehensive study to evaluate the current practice performed by medical and nonmedical practitioners, and there are neither established criteria of a satisfactory circumcision, nor guidelines to minimize the preventable complications.

We conducted a prospective study over 4 years to evaluate the current practice of circumcision in our community (Jeddah) by screening a random sample of 1000 circumcised children which indicated high incidence of complications (18.3%) and non-cosmetic results (35.8%). From this screening study we were able to identify criteria for the satisfactory circumcision and to recommend certain guidelines for the performance of satisfactory circumcision with minimal complications and discomfort to babies.

We applied these recommendations in 500 circumcisions performed in our hospital with very encouraging results. This paper presents the findings from the screening study, the recommended guidelines, and their effects on the performance of the 500 circumcisions.

KEY WORDS . Male circumcision, history, complications, technical recommendations.

Introduction

Circumcision is the oldest and the most common procedure performed on males. It dates back about 6000 years. Prophet Abraham performed this procedure on

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himself. Ancient Egyptians practiced circumcision, as is evident in their temple drawings and mummies[1]. However, in agreement with Adams[2], Spink and Lewis[3], and Abdelhalim[4], circumcision was not described by any of the ancient authors such as Celsus[5] or Paul of Aegina[6], but Al-Zahrawi, 1000 years ago, was the first to describe the dissection technique of circumcision. He was also the first to make use of the scissors in his technique, and to mention complications of this procedure and how to handle them.[3,7]

In Muslim communities, circumcision is a highly recommended religious procedure. In spite of the fact that it is the commonest surgical operation, it is still attended by a high incidence of complications. In this planned study, the current practice of circumcision in our community is evaluated, with the aim of establishing criteria and recommending certain guidelines for the safe performance of circumcision, without morbidity or mortality. Circumcision is considered to be correct and satisfactory (Fig. 1) when the prepuce is excised sufficiently to uncover totally the glans, leaving an adequately covered shaft with a nicely healed paracoronal wound. It results in an easy to clean penis while preserving functions such as sensation, erection, ejaculation and urination. These functions might be affected by penile tissue loss, concealment of the penis, penile fistula, meatal ulceration or stenosis.

FIG. 1. The satisfactory circumcision according to our criteria.

Patients and Methods

This planned study was conducted in 2 phases, over 4 years (January 1985-December 1988) at King Abdulaziz University, Hospital, Jeddah, Saudi Arabia. In the first two years, we screened 1000 circumcised male children. A special clinical sheet was designed to evaluate the current practice of circumcision in relation to the different factors which might affect the outcome. The high incidence of complications (54.1%) in this group has led us to propose guidelines for performing satisfactory circumcision. The guidelines are:

1. The procedure should be aseptic.

2. The procedure should be done under anaesthesia, either general for children over 6 months of age or local anaesthesia with 1% xylocaine as ring anaesthesia at the proximal shaft of the penis, for babies up to the age of 6 months. Additionally, a sedative such as phenergan (in a dose of 1 mg/kg body weight to be taken orally one hour before the procedure) can be used for the babies older than 3 months.

3. Gentle retraction and separation of the prepuce to avoid the involvement of the external urethral meatus in the areas of abrasions which might result from separation of the congenitally existing adherent areas of glanulopreputial surfaces (Fig. 2) which are usually seen in 90% of the babies at birth and in only 10% of the children when they present uncircumcised at the age of 3 years[8]. Careful sep-

aration of the prepuce from around the urethral meatus with fine blunt probe prevents the occurrence of meatal ulceration and later stenosis.

4. Circumferential marking of the optimal level of excision of the prepuce which is just distal (1-2mm) to the corona of the penis. Marking prevents circumferential inequality and over or under-estimation of the level of cut.

5. Excision of the inner (mucosal) layer, leaving a 2-3mm cuff; removal of this layer prevents the re-reflection of penile skin over the glans which might result in adhesions of the abraded glanulopreputial surfaces or between the cut edges and the abraded glans penis.

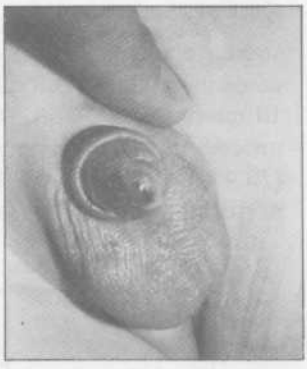

FIG. 2. Abrasions covered with fibrinous exudate close to the meatus and involving its edge.

6. Good haemostasis by careful diathermy coagulation in the circumcision performed under general anaesthesia, and by the fine absorbable ligatures of the main bleeders in the cases performed under local anaesthesia.

7. Approximation of the cut edges of circumcision wound with 4-6 fine (6/0) absorbable stitches to prevent wound dehiscence with the subsequent broad, ugly scarring (Fig. 3) and to ensure faster healing.

8. Light pressure dressing with sufra-tulle, dry gauze and elastoplast tape. This dressing should be removed after 24 hours.

9. Clear post-operative instruction to be given to parents to present to the emergency room for any emergency or enquiry (*i.e.*, bleeding, urinary retention and glanular color changes). Post-operative follow-up is offered in the outpatient clinic one week after surgery.

FIG. 3. Circumcision with broad ugly scar.

We applied these recommendations in 500 circumcisions performed in the second 2 years of this study. We evaluated the result of this group by the same clinical sheet used in the evaluation of the screened group.

Results

A. Results of Screened Group

All circumcisions (1000 cases) were done for religious reasons. A total of 459 (45.9%) were satisfactory and 541 (54.1%) were unsatisfactory circumcisions. Circumcisions performed by medical personnel accounted for 710 cases, 48.3% of which were unsatisfactory, while 290 circumcisions were performed by non-medical personnel, 68.3% of which were unsatisfactory (Table 1). The different methods used are shown in Table 2. In 542 cases, the method of circumcision was unknown

to the parents; 418 procedures had been performed with bone-cutting forceps or similar clamps, 20 cases had been performed using the dissection method, and 20 cases using the plastibell method. Results were satisfactory for 214 cases (51.2%), 10 cases (50%), and 14 cases (70%), respectively, for the three methods. The procedure was performed under anaesthesia (general or local) in 211 cases; 43 (20.4%) of which were unsatisfactory. Six hundred sixty-three circumcisions were performed without anaesthesia, 424 (64%) of which were unsatisfactory (Table 3).

TABLE 1. The outcome in the screened group 1000.

	Medical cases	Non-medical cases	Total cases
Satisfactory	367 (51.7%)	92 (31.7%)	459 (45.9%)
Unsatisfactory	343 (48.3%)	198 (68.3%)	541 (54.1%)
Total	710 (100 %)	290 (100 %)	1000 (100 %)

The youngest: 1 month; The eldest: 12 years; Mean age: 4 months.

TABLE 2. Method used in the screened group.

	Total cases	Satisfactory cases	Unsatisfactory cases
Unknown	542 (100%)	221 (40.8%)	321 (59.2%)
Bone cutter	418 (100%)	214 (51.2%)	204 (48.8%)
Dissection	20 (100%)	10 (50%)	10 (50%)
Plastibell	20 (100%)	14 (70%)	6 (30%)
Total	1000 (100%)	459 (45.9%)	541 (54.1%)

TABLE 3. Anaesthesia in the screened group.

	Total cases	Satisfactory cases	Unsatisfactory cases
Without anaesthesia	663 (100%)	239 (36%)	424 (64%)
With anaesthesia	211 (100%)	168 (79.6%)	43 (20.4%)
Unknown	196 (100%)	52 (41.3%)	74 (58.79%)
Total	1,000 (100%)	459 (45.9%)	541 (54.1%)

The unsatisfactory circumcisions (54.1%) were classified into two groups; the first or complicated group accounted for 183 cases (18.3%). Details of these complications are shown in Table 4. The second or non-cosmetic group (358 cases or 35.8%) included procedures resulting in broad ugly scars (Fig. 3) (198 cases, or 19.8%) and unsightly circumcisions (160 cases, or 16%); Fig. 4.

TABLE 4. Definite complications in the screened group (1000).

	No. of Cases		No. of Cases
Bleeding	18	Inadequate	96
Septicaemia	1	Penile skin loss	4
Urinary retention	2	Meatal stenosis	1
Stitch sinus	1	Post circumcision chordee	2
Iatrogenic hypospadias	1	Adhesions	36
Urethral fistula	1	Post circumcision phimosis	4
Amputation (glans)	1	Concealed penis	1
Inclusion cyst	1	Circumcision in hypospadias	3
		Total	183

B. Group Circumcised According to Proposed Guidelines

All 500 cases were done for religious reasons, and were performed by medical practitioners with satisfactory results in 499 (99.8%) cases. All circumcisions were done under anaesthesia: 122 cases were done under general, and 378 cases were done under local anaesthesia. Painless clamping of the prepuce was seen in 367 cases (97%) and comfortable, painless procedures were seen (for babies who were quiet throughout the procedure) in 259 (68.5%) cases. For the remaining 11 cases, the babies cried on clamping and throughout the procedure (Table 5).

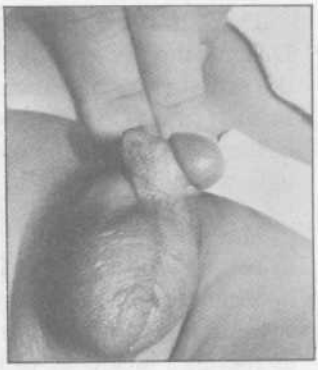

FIG. 4. Non-cosmetic circumcision with circumferential inequality and skin tag.

TABLE 5. Effectiveness of the local anaesthesia in the operated group.

Effectiveness	No. of cases (%)
Quiet throughout* the procedure	259* (68.5%)
Quiet on clamping	367 (97%)
Crying on clamping	11 (3%)

*These patients included in the 2nd group (quiet on clamping).

There was only one case of post-circumcision bleeding, which could be controlled by pressure and redressing. None of this group showed wound scarring or cosmectic failure.

Discussion

Circumcision is an essential part of every male Muslim's body hygiene, but unfortunately, the procedure has not attracted a great deal of medical attention. This lack of interest is indicated by :

Firstly: Paucity of the reports on the practice of this procedure in our community, compared to the extensive reports from other cultures which share a high rate of circumcision, but have different backgrounds, such as the U.S.A., where the rate of circumcision is 80-90% of male neonates[8,9].

Secondly: The attitude of our medical professionals, as they either consider circumcision to be a minor procedure to be referred to juniors who usually lack adequate training, or leaving it to traditional practitioners, who have had neither correct supervised training, nor had any source of medical education to improve or update their knowledge and practice.

Therefore, we recommend that circumcision be done by medical professionals. Despite the high incidence of unsatisfactory circumcision (541 cases or 54.1%) in the screened group; the definite complications account for 1/3 only of the unsatisfactory cases (183 cases or 18.3%), while the remaining 2/3 (358 cases or 35.8%) of these cases were the cosmetically unsatisfactory circumcisions including the broad ugly scarring.

The variety of definite post-circumcision complications (18.3%) which are seen in the screened group (Table 4), had been reported previously[8-31]. It is generally accepted that the majority of these complications are minor but a few are disastrous such as penile loss or iatrogenic hypospadias. These serious complications, as well as the high incidence of the other minor complications, have induced the medical authorities in other communities (non-religiously practiced circumcision) to restrict the procedure to medically indicated cases only, abandoning routine neonatal circumcision and recommending proper penile hygiene as an alternative[11,14,32-34]. The literature is full of controversial reports on circumcision, some of which recommend its practice because of several advantages[1,35-43], while other reports condemn it because of the risk involved, and a variety of other reasons[11,14,32-34]. In a community such as ours, where circumcision is performed for religious reasons and no other alternative is acceptable, it is more logical and practical to recommend guidelines aimed at performing a satisfactory circumcision, than to condemn it altogether. In addition, past experience in countries such as the U.S.A., where non-religious circumcision is practiced, has revealed that, in spite of attempts to abolish it as a routine procedure, circumcision is still practiced at a constant rate[8,49,44-46].

We have established guidelines which, when applied in an integrated manner, will lead to a correct and safe practice irrespective of the technique or the experience of the medical practitioner, (except minimal complications which could be expected for such a procedure). The recommended guidelines are described above, however, some points deserve further discussion.

Anaesthesia

The contribution of anaesthesia can be seen clearly in the satisfactory results of our surgical cases (99.8%), as compared to the high percentage (64%) of unsatisfactory outcomes in the non-anaesthesized cases in the screened group (Table 3). These results, together with other evidence of painful circumcision without anaesthesia, such as the baby screaming, increased heart rate, increased respiratory rate and decreased P_{O_2}[47,48], as well as increased serum cortisol[49], preclude the incorrect belief that neonates and infants do not feel pain[50-52]. In spite of this, children do not usually need post-operative analgesia as frequently as adults[50]. We recommend the use of the subcutaneous ring anaesthesia at the proximal shaft of the penis, which proved to be as effective as the other penile nerve blocks, which were described by other authors[52,53], but without the risks of compartmental compression of the vessels by deeply infiltrated anaesthetic solution or deep haematomas, or by mechanical or chemical damage to the main penile vessels with consequent penile gangrene[54].

Prevention of Meatitis and Meatal Ulceration

Gentle and careful separation of the prepuce from around the external urethral meatus is an essential step in the prevention of meatitis and meatal ulceration, particularly in the case where congenital glanulopreputial adhesions are in close proximity to the meatus. On separation, this may lead to abrasions of the glans; crude retraction may extend these abrasions to involve the meatal epithelium with consequent meatitis and meatal ulceration and possible meatal stenosis due to cicatricial contracture or meatal cross healing. In such cases, where abrasions are close to the meatus, it is necessary to maintain separation of the meatal edges by gentle retraction and daily probing of the meatus, and applying an ointment 3 times daily until the abrasions have healed completely (Fig. 5, 6).

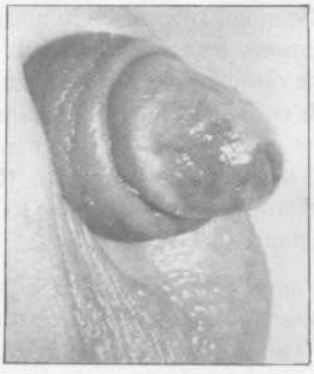

FIG. 5. The same patient on Fig. 2 with partially healed abrasions.

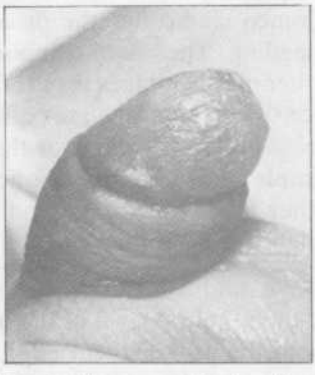

FIG. 6. The same patient on Fig. 2 shows complete epithelialization of the abrasions.

Electrocoagulation

The use of electrocoagulation, during circumcision has been repeatedly condemned, as it might cause penile necrosis[55-57]. In our experience, electrocoagulation (preferably bipolar) has proven to be a safe method of controlling bleeding, provided it is used correctly (*i.e.*, correct connections, precise picking of the bleeders, avoiding big and deep bites of tissue). There is no definite report in the literature indicating that the simple use of the electrocoagulation has resulted in penile necrosis, but

under no circumstances should it be used in cutting tissue, or applied to the large metallic clamps (Gomco), as the last two faulty applications reported in the literature resulted in penile gangrene[56,57]. Perley *et al.*[10] had similar favorable experience with electrocoagulation, which they recommended as an alternative to control bleeding.

Circumcision Wound Dehiscence

Healing, by secondary intention, after dehiscence of a circumcision wound takes a longer period and results in broad, ugly scarring. This dehiscence occurs with repeated post-operative erections leading to retraction of the proximal skin. Dehiscence is primarily due to failure to apply approximating stitches to the prepuce cut edges, and secondarily to the excessive removal of penile skin, where the remaining skin is sufficient to cover the flaccid, but not the erected, penis. Penile scarring is a cosmetic failure but we consider it as a distinct group, as Bissada *et al.*[58] reported a remote risk of development of squamous cell carcinoma in extensive scar tissue, as seen in 15 cases of tribal circumcision (mostly from the southern province), which has been abandoned for years. The broad scarring which is seen in 198 cases (non had approximating stitches) of screened cases might lead to similar consequences. This extensive, ugly scarring can be prevented by the approximating stitches and marking the adequate level of cut.

Techniques

Several techniques of circumcision are in current practice, but the main methods are the circumferential clamps (*i.e.*, Gomco and Plastibel), straight clamps such as bone cutting forceps, and the dissection technique. Previous reports indicated that complications occurred with all techniques, and each specific technique had particular advantages and disadvantages[8,31]. For example, the circumferential clamp is simple, and controls the level of cut at both layers of the prepuce, however, the Gomco clamp has the disadvantage of post-circumcision wound dehiscence and bleeding. These two complications are less likely to occur with Plastibel, however, other disadvantages result: the retained plastic ring increases the incidence of infection[24-26] and may lead to penile constriction with consequent gangrene or permanent grooving on the glans or the shaft[24-30]. On the other hand, the straight clamp is a simple and quick technique, but its disadvantage is that it may leave an excess inner layer (mucosal), and if any attempt is made to include it in the clamp, it might result in injury to the glans.

We modified the straight clamp technique by using the clamp to cut the prepuce at the required level of the outer skin, giving a neat cut all around with no bleeding from the proximal cut edge. The excess inner layer (mucosa) is then excised with scissors, and approximate stitches are made at the cut edges, with careful control of bleeding. This modification ensures safety and excellent cosmetic results, comparable to the Gomco clamp, provided that the guidelines mentioned above are taken into consideration. These simple instruments (straight clamp and scissors) are available in any medical unit.

Conclusion

In our experience with patients reviewed in this paper, circumcision is associated with a high incidence of definite and relative (cosmetic) complications, the aetiology of which were discussed. The various methods of circumsion were reviewed, and several guidelines were suggested to minimize complications. These guidelines were applied to 500 cases of circumcision in our hospital; satisfactory results were achieved in the 99.8% of the cases, and the method was proven to be safe and effective.

References

1. **Warna, P.** Historical review; circumcision. *Arch Pediator* 1939; **56:**385-92.
2. **Adams, F.** *In: Seven Books of Paulus Aegineta,* **Transl by: Adams F** vol 2, London: Syndenham, 1846.
3. **Spink MS, Lewis IL.** Al Bucasis on surgery and instruments (a definitive edition of the arabic text with english translation and commentary). London: Wellcome Institute of the History of Medicine, 1973.
4. **Abdel Halim RE.** *Paediatric urology 1000 years ago. Progress in Paediatric Surgery,* vol 20. 1986. Springer-Verlag, Berlin, Heidelberg.
5. **Celsus,** *De medicine,* **Spencer, WG.** vol 3, London: William Heinmann, Cambridge, Massachusetts: Harvard University Press, 1938.
6. **Paulus Aegineta,** The Seven books of Paulus Aegineta, vol 1-3. **Transl by Adams, F.** London: Sydenham Society, 1846.
7. **Al Zahrawi A.** *Al Tasreef Le-man Ajeza An Al Ta-al-leef,* 13th century, (Arabic Manuscript). Section 53, (Circumcision and its complications) vol. 30. pp 99-102 (Microfilm 3172 f, Al-Imam Muhammad bin Saud University Library, Riyadh, Saudi Arabia).
8. **Kaplan GW.** Complications of Circumcision. *Urol Clin North Am* 1983; **10:** 543-9.
9. **Wallerstein E.** Circumcision the uniquely American medical enigma. *Urol Clin North Am* 1985; **12:** 123-32.
10. **Perley JM, Shapiro S.** Complication of circumcision. *In:* **De Veries PA, Shapiro S (ed.)** *Complication of Pediatric Surgery,* A Wiley Medical Publications, 1982: New York: 475-81.
11. **Gairdner D.** The fate of the foreskin. *Br Med* 1949; **2:** 1433-7.
12. **Lau JTK, Ong GB.** Subglanular urethral fistula following circumcision repaired by the advancement method. *J Urol* 1981; **126:** 702-3.
13. **Sterenberg N, Golan J, Ben-hur N.** Necrosis of the glans penis following neonatal circumcision. *Plast Reconstruc Surg* 1981; **68:** 237-9.
14. **Grimes C.** Routine circumcision of the newborn infant. A reappraisal. *Am J Obstet Gynecol* 1978; **130:** 125-9.
15. **Speert H.** Circumcision of the newborn. *Obstet Gynecol* 1953; **2:** 164-71.
16. **Sotolongo JRL, Hoffman S, Gribetz ME.** Penile denudation injuries after circumcision. *J Urol* 1984; **133:** 102-3.
17. **Radhakrishnan JM.** Penoplasty for buried penis, Secondary to "Radical" circumcision. *J Ped Surg* 1984; **19:** 629-31.
18. **Trier WC, Drach GW.** Concealed penis: another compilation. *Am J Dis Child* 1973; **125:** 176-7.
19. **Mackenzie AR.** Meatal ulceration following neonatal circumcision. *Obstet Gynecol* 1966; **28:** 221-3.
20. **Berry CD, Cross RR.** Urethral meatal caliber in circumcised and uncircumcised males. *Am J Dis Child* 1956; **92:** 152-6.
21. **Gracely-Kilgore KA.** Penile adhesions. The hidden compilation of circumcision. *Nurse Pract* 1984; **9:** 22-4.
22. **Berman W.** Urinary retention due to ritual circumcision. Pediatrics 1975; **56:** 621.
23. **Horowitz J, Schurssheim A, Scalettar HE.** Abdominal distention following ritual circumcision. Pediatrics 1976; **57:** 579.

24. **Stranko J, Ryan M, Bowman, A.** Impetigo in newborn infants associated with a plastic bell clamp circumcision. *Pediatric Infec Dis* 1986; **5:** 597-9.
25. **Gee WF, Ansell JS.** Neonatal circumcision. A ten years overview: with comparison of Gomco clamp and Plasitbell device. *Pediatrics* 1976; **58:** 824-7.
26. **Malo T, Banforte R.** Hazards of Plastic Bell circumcisions (Letter to the editor) *Obstet Gynecol* 1969; **33:** 869.
27. **Rubenstein M, Bason W.** Complication of circumcision done with a plastic bell clamp. *Am J Dis Child* 1968; **17:** 381-2.
28. **Johnsonbaugh RE.** Complication of circumcision performed with plastic disposable circumcision device long term follow up. *Am J Dis Child* 1979; **133:** 438.
29. **Johnsonbaugh RE, Meyer BP.** Complication of a circumcision performed with a plastic bell clamp. *Am J Dis Child* 1969; **118:** 781.
30. **Al-Samarrai A, Mofti A, Crankson S, Jawad A, Haque, K, Al-Meshari A.** A review of a Plastibell device in neonatal circumcision in 2000 instances. *Surg Obstet Gynecol* 1988; **167:** 341-3.
31. **Roefsky JB.** Glans necrosis as a complication of circumcision. *Pediatrics* 1967; **39:** 774-6.
32. **Committee on Fetus and Newborn.** Report of the *ad hoc* task force on circumcision. *Pediatrics* 1975; **56:** 610-1.
33. **Patel DA, Flaherty EG, Dunn J.** Factors affecting the practice of circumcision. *Am J Dis Child* 1982; **136:** 634-6.
34. **Anonymous.** The case against neonatal circumcision. Editorial *Br Med J* 1979; **1:** 1163-4.
35. **Swaykus M.** Neonatal circumcision. (Letter to the Editor). *J Fam Pract* 1986; **22:** 20-2.
36. **Herzog LW, Alvarez SR.** The frequency of foreskin problems in uncircumcised children. *Am J Dis Child* 1986; **140:** 254-6.
37. **Hunt DSJ, Newill RGD, Gibson OB.** Three Englishmen favor circumcision and why they do. *Pediatrics* 1977; **60:** 565-6.
38. **Taylor PK, Rodin P.** Herpes genitalis and circumcision. *Br J. Vener Dis* 1975; **51:** 274-7.
39. **Wiswell TEj, Smith FR, Bass JW.** Decreased incidence of urinary tract infections in circumcised male infants. *Pediatrics* 1985; **75:** 901-3.
40. **Kochen M, McCurry S.** Circumcision and the risk of cancer of penis, a life table analysis. *Am J Dis Child* 1980; **134:** 484-6.
41. **Leiter E, Lefkovitcs AM.** Circumcision and penile carcinoma. *NY State J Med* 1975; **75:** 1520-2.
42. **Whelan, P.** Male dyspareunia due to short frenulum. An indication for adult circumcision. *Br Med J* 1977; **2:** 1633-4.
43. **Osborn L, Matcalf T, Mariani E.** Hygienic care in uncircumcised infants. *Pediatrics* 1981; **67:** 365-7.
44. **Herrera A, Hsu A, Salcedo U, Ruiz M.** The role of parental information in incidence of circumcision. *Pediatrics* 1982; **70:** 597-8.
45. **Lovell J, Coz J.** Maternal attitudes toward circumcision. *J Fam Pract* 1979; **9:** 811-3.
46. **Bennett H, Weissman M.** Circumcision: Knowledge isn't enough (Letter to the Editor). *Pediatrics* 1981; **68:** 750.
47. **Williamson PS, Williamson M.** Physiologic stress reduction by a local anaesthesia during newborn circumcision. *Pediatrics* 1983; **7:** 36-40.
48. **Rawlings DJ, Miller PA, Engel RR.** The effect of circumcision on transcutaneous P02 in term infants. *Am J Dis Child* 1980; **134:** 676-8.
49. **Talbert LM, Kraybill EN, Potter HD.** Adrenal cortical response to circumcision in neonate. *Obstet Gynecol* 1976; **48:** 208-10.
50. **Schechter NL, Allen DA, Hanson K.** Status of pediatric pain control: A comparison of hospital analgesic usage in children and adults. *Pediatrics* 1986; **77:** 11-5.
51. **Cohen M.** Circumcision debate (letter to the editor). *Pediatrics* 1986; **78:** 951.
52. **Kirya C, Werthmann, MW.** Neonatal circumcision and penile dorsal nerve block. A painless procedure. *J Pediatr* 1978; **92:** 998-1000.
53. **Brown TCK, Fisk GC,** *Anaesthesia for Children.* Oxford: Blackwell Scientific Publications, 1979.
54. **Sara CA, Lowry CJ.** A complication of circumcision and dorsal nerve block of the penis. *Anaesth. Intensive Care* 1985; **13:** 79-82.

55. **Raffensperger JG (ed.)** Circumcision. *in: Swenson's pediatric surgery*. New York: Appleton-Century-Crofts 1980: 138-9.
56. **Perlman CK.** Reconstruction following iatrogenic burn of the penis. *J Pediatr Surg* 1976; **11:** 121.
57. **Azmy A, Boddy SA, Ransley PG.** Successful reconstruction following circumcision with diathermy. *Br J Urol* 1985; **57:** 587-8.
58. **Bissada NK, Morcos RR, El Senossi M.** Post circumcision carcinoma of the penis. I. Clinical aspect. *J Urol* 1986; **135:** 283-5.

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تقويم نقدي لختان الذكور في المنطقة الغربية من المملكة العربية السعودية

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قسم الجراحة ، كلية الطب والعلوم الطبية ، جامعة الملك عبد العزيز
جـــدة ، المملكة العربية السعودية

المستخلص : يعتبر ختان الذكور في المجتمعات الإسلامية من السنن الدينية المؤكدة . لذا ، فإنه أكثر العمليات الجراحية شيوعًا . وعلى الرغم من ذلك ، فإن النظرة له على أنه عملية صغرى أدت إلى عدم وجود دراسة وافية لتقويم الممارسة الحالية لهذه العملية بوساطة الأطباء والممارسين التقليديين (المطهرين) وبالتالي فلا توجد معايير تقويمية للختان المثالي ، كما لا توجد إرشادات للتقليل من المضاعفات الممكن تجنبها .

لذا ، فقد قمنا بدراسة استقصائية لتقويم الأداء الحالي للختان في مجتمعنا (المنطقة الغربية من المملكة العربية السعودية) بفحص ١٠٠٠ (ألف) طفل مما أظهر وجود مضاعفات في ١٨,٣٪ ، ونتائج غير مرضية تجميليا في ٣٥,٨٪ . من خلال هذه النتائج ، قمنا بوضع معايير للختان السليم ، واقترحنا الإرشادات التي تؤدى إلى تجنب المضاعفات مع تخفيف معاناة الأطفال أثناء العملية . وقد طبقنا تلك الإرشادات في ختان ٥٠٠ (خمسمائة) طفل في مستشفى جامعة الملك عبد العزيز بجدة ، أدت إلى نتائج مشجعه في ٩٩,٨٪ من هذه الحالات .