



ORIGINAL RESEARCH PAPER

Surgery

MONOPOLAR CAUTERY CAN BE USED AS AN EFFECTIVE ALTERNATE TO SCALPEL TO PERFORM SKIN INCISION IN CIRCUMCISION

KEY WORDS: Circumcision, Scalpel, Cautery

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ABSTRACT

AIM: To compare efficacy of using monopolar cautery for circumcision over scalpel blade.

METHOD: Total 40 patients, most of them being in the age group of 5-10 years with various indication for circumcision held at Yenepoya Medical College Hospital between a period of June 2017 to June 2018 were assessed clinically and the outcome was tabulated.

RESULT: In this study, 21 people soaked guaze piece in scalpel group and 6 in the cautery group. 9 patients had used one n half soaked guaze piece in the monopolar cautery and 2 in the scalpel group. 10 patient fully soaked guaze piece in the scalpel group and 3 in the cautery group. In post operative day 1, 7 patient in the scalpel group had significant erythema indicating infection and 2 in the cautery group. Wound was clean in 18 patient of monopolar cautery and 12 in scalpel group. Comparison of the wound healing on post operative day one in the scalpel and cautery group showed seven patients in the scalpel group had significant erythema compared to the two patients in the cautery group, indicating wound infection.

CONCLUSION: Monopolar cautery can be used as an effective alternative to scalpel to perform skin incision in circumcision. The amount of bleeding was slightly less in monopolar cautery with slight improved wound healing.

INTRODUCTION

Circumcision is a surgical procedure involving the removal of proximal part of penile prepuce (foreskin). It is one of the oldest surgical and ritual procedures. WHO is recommending circumcision on the basis of studies indicating its positive effects on human health and especially its role in protection from AIDS. It is also one of the most commonly performed operations which may be accompanied by complications. It is also mentioned in the Pediatric surgical journals that circumcision though a simple procedure in surgical practice; It has its complications because this is one of the procedures done by a junior most surgeon without the help of a senior faculty. So it is advisable for all senior faculty to assist the juniors during this procedure.

Common complications are

- Bleeding from the frenular artery
- Excess excision of the preputial skin especially among the neonates
- Excessive use of using cautery over the urethra resulting in urethral trauma leading to urethral

Fistula, one of the dreaded complications in circumcision.

Wound complication rate and pain score appears to be of no different when comparing the two modalities.

Monopolar diathermy in the use of circumcision has been estimated to reduce Bleeding by 90%. The use of diathermy for hemostasis during circumcision in the adult population has been described as very good, when compared with standard ties.

However, the use of monopolar diathermy for both cutting and coagulation to the best of our knowledge has not been described.

Our technique of using electrocautery is associated with minimal bleeding, safety and efficiency. It is universally applicable to circumcision, frenuloplasty, and preputioplasty. It has minimal postoperative complications and is associated with exceptional cosmesis.

AIM AND OBJECTIVE:-

Patient is divided into two groups and is subjected to circumcision with scalpel in one group and monopolar diathermy in the other group. To compare from our data group

- incidence of bleeding
- early healing
- infection rate

MATERIAL AND METHOD:-

After Ethical committee approval and informed consent, 40 Patient

admitted in Yenepoya Medical College of General Surgery Department for various indication for circumcision will undergo detailed examination as below patients will be selected for the study.

A predesigned performa drafted for the study will be used. Data collection will be done followed by analysis which include

- 1 Amount of blood loss
- 2 Time for healing
- 3 Infection rate

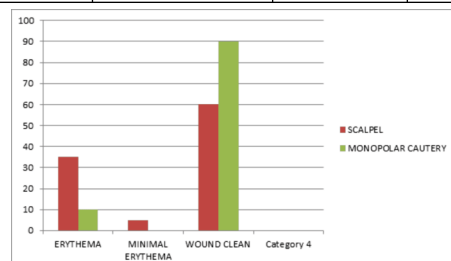
SOURCE OF DATA:

Patient in department of General Surgery, Yenepoya Medical College, Mangalore who are admitted for circumcision during period of June 2017 to June 2018. Sample size- 40

ANALYSIS AND RESULT:

Table 1: Showing distribution of samples by age

	Monopolar cautery	Scalpel	Total
<5 years	6	3	9
5-10 years	9	12	21
Above 10 years	5	5	10
TOTAL	20	20	40



In this study the bleeding was more in the scalpel group with 2 one soaked piece in the scalpel group and 6 in the cautery group. Nine patients had one and half soaked guaze piece in the monopolar cautery and 2 in the scalpel group. Ten patients had fully soaked guaze pieces in the scalpel group and only 3 in the cautery group. In the summary amount of bleeding is comparatively more in the scalpel group.

POD -1	Monopolar cautery	Scalpel	Total
Erythema	2	7	9
Minimal erythema	0	1	1
Wound clean	18	12	30
TOTAL	20	20	40

On post operative day two erythema improved in the 7 patients who had erythema in the post op day one and the two patients in the monopolar cautery group.

Wound was clean in the monopolar cautery in eighteen patients in the cautery group which was 13 in the scalpel group. Wound was better in the monopolar cautery group compared to the scalpel group.

In the post op day three six patients in the scalpel group had residual erythema were as only two in the cautery group. Minimal erythema in one patient in the scalpel group and wound was clean in the eighteen patients in the monopolar cautery group and thirteen in the scalpel group.

POD -7	Monopolar Cautery	Scalpel	TOTAL
Wound healed	20	20	40
TOTAL	20	20	40

DISCUSSION:-

1. Comparing based on amount of bleeding- on comparison of amount of bleeding in the 2 groups based on fully soaked guaze pieces, bleeding is seen more in scalpel group as compared to monopolar cautery. Better haemostasis is achieved with monopolar cautery.

2. Comparison with wound healing on POD-1 : Comparison is done on the basis of presence of erythema which was seen more with scalpel group as compared to monopolar cautery group.

3. Comparison of wound on POD-7 : On POD -7, all 20 patients wound heal in both groups. The amount of bleeding was slightly less in monopolar cautery with slight improved wound healing. Comparison of the wound healing on post operative day one in the scalpel and cautery group showed seven patients in the scalpel group had significant erythema compared to the two patients in the cautery group, indicating wound infection.

On post operative day two erythema improved in the 7 patients who had erythema in the post op day one and the two patients in the monopolar cautery group. Wound was clean in the monopolar cautery in eighteen patients in the cautery group which was 13 in the scalpel group. Wound was better in the monopolar cautery group compared to the scalpel group. In the post op day three six patients in the scalpel group had residual erythema were as only two in the cautery group. Minimal erythema in one patient in the scalpel group and wound was clean in the eighteen patients in the monopolar cautery group and thirteen in the scalpel group.

SUMMARY:-

In this study 40 patients with various indication of circumcision at Yenepoya Medical College hospital between the period of June 2017 to June 2018 on comparing the efficacy of monopolar cautery with scalpel on skin incision in circumcision. The amount of bleeding was slightly less in monopolar cautery with slight improved wound healing from post operative day 1.

CONCLUSION:

Monopolar cautery can be used as an effective alternative to scalpel to perform skin incision in circumcision. The amount of bleeding was slightly less in monopolar cautery with slight improved wound healing.

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