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Role of Primary Circumcision Versus Reduction with Elective Circumcision or Dorsal Slitting in Paraphimosis, A Comparative Study

KEYWORDS: Phimosis, Paraphimosis, Circumcision, Dorsal slit

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ABSTRACT *The various options available for treatment of paraphimosis are emergency reduction and then elective circumcision, or emergency circumcision. In this study we have performed emergency circumcision rather than treating paraphimosis in two different stages. We have compared two groups of patients in respect to wound infection, intraoperative bleeding and immediate post operative bleeding. This has prevented recurrence of paraphimosis after initial treatment and also increased patients comfort and convenience to greater extend. The risk of wound infection and other associated morbidities were insignificant.*

Emergency circumcision can be the most reliable and definitive treatment for paraphimosis, but there is slight increase in the risk of post operative complications. Still this risk is insignificant and can be managed effectively without much morbidity to patient.

Emergency circumcision should be performed for the paraphimosis if

1) *Reduction of paraphimosis is not possible*
2) *There is no evidence of frank infection like prepucial ulceration or balanitis.*
3) *There is history of recurrent episode of paraphimosis.*

However in cases where there is clear cut evidence of infection like ulceration, posthitis, balanitis it is safer to reduce paraphimosis. In these cases circumcision should be done electively at a later stage.

INTRODUCTION:
Paraphimosis (Greek-par-ah-fi-mosis): It is the condition where the tight prepuce has been retracted but cannot be returned and it is constricting the glans penis which is engorged and oedematous.(1,2)

Paraphimosis is one of the important commonly occurring surgical emergency related to male sexual organ-penis. If it is not treated promptly it leads to further rise of swelling, pain, ischemia and eventually gangrene of glans penis.

There are different modalities of treatment of paraphimosis like reduction, dorsal slit, and circumcision. Most of the surgeon prefer to reduce paraphimosis by various techniques like multiple punctures , or use of hyalurunidase etc followed by elective circumcision at later stage reserving emergency circumcision for more difficult cases.

In this study it is our attempt to evaluate the treatment of paraphimosis in two different ways at two different stages, one as an emergency circumcision and second is reducing paraphimosis in emergency followed by elective or planned circumcision.

MATERIAL AND METHODS:
This study was carried out prospectively over period of two years. All patients of paraphimosis attending the surgery outpatient department were selected. We have studied patients from all age groups with the youngest being 2 years and the eldest being 60 years with an average of 31 years.

Total 100 patients were taken for study. These patients were divided in two groups. Group I contains 50 patients who were treated by reduction of paraphimosis in emergency followed by elective circumcision. Group II patients were treated with primary (emergency) circumcision.

Patients were evaluated systemically. Both the groups were followed strictly for three months. Follow up was kept on first and third post op day, then every weekly for a month and then monthly for three months. Following points were observed in every follow-up.

1. Wound healing
2. Infection
3. Patient compliance
4. Complications

All equipments and other facilities required for this study were freely available in our hospital. No special equipment necessary.

Paediatric cases were given general anaesthesia and dorsal penile nerve block with or without a ring block by using 1% xylocaine without adrenaline for adult patients. All patients were treated on day care basis.

Various operative procedure used in this study were

Group I
A) Emergency reduction by

1. Manual reduction
2. Multiple puncture techniques
3. Compression method
   Followed by

B) Elective circumcision
Group II

A) Emergency circumcision by sleeve technique

DISCUSSION:
All patients who had paraphimosis were presumed to have

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some degree of phimosis in which the skin was retractable behind the glans penis with or without force. All patients were evaluated systemically pre-operatively, intraoperative and post operatively. Various observations found were as below.

Most common age group for occurrence of paraphimosis was found to be between 1 to 12 years. Incidence of paraphimosis decreases with age(TABLE 1). In our series patients belonging to this age group were 32. i.e. 32 % patients were from this age group which correlates with the other series Gairander(1949)

It is seen that paraphimosis occurred almost exclusively in non Muslim community due to the trend of religious circumcision(TABLE 2.) Out of 100 patients only four patients were Muslims who had escaped religious circumcision in their childhood, all patients were Hindu.

Most common time of presentation was between the 1st to 4^{th} day(TABLE 3.) Two cases presented as late as 15^{th} day but surprisingly there were no any ischemic changes seen.

Out of 50 patients in group I where reduction was an initial measure was done in all but in two patients were it was not possible to reduce by multiple puncture technique. These two patients required dorsal slit to achieve complete reduction.

Average time required for circumcision in group I was 16(sixteen) minutes, while for group II it was 15 minutes (TABLE 4.) So it was almost same for both the types of circumcision. In group I circumcision was performed by conventional method i.e. by dorsal slit method, while in group II it was performed by sleeve technique as shown in photograph. There was slightly more blood loss observed in the second group.

Post-operative complications were observed separately in two different groups. They were divided in two different groups viz. early and late. Haemorrhage was observed in 8 cases in each of the groups which was immediate post operative and needed just a compression dressing. Only one case required simple ligature with catgut suture. No patient showed any systemic signs of blood loss, neither required blood transfusion. Both the groups showed same rate of immediate post operative haemorrhage. There was no difference between both this group as far as the rate of complication is considered.

Infection was second most common complication which occurred in two cases in group I and three cases in group II. Post operative wound complication rate was slightly more in group II.

No significant difference was observed in the two groups regarding to late complications like metal stenos, Meatal ulcerations and prepucial redundancy.

Slightly more complication rate was seen in group II which was attributed to preoperative existing prepucial ulcerations, preoperative infection and reduced blood supply to glans.

Group I patients needed to come twice for the treatment. Total OPD visits(five days) of these patients including the procedure day was markedly increased as compared to group II (3days) which is a single staged approach which improved patients compliance to a greater extent.

Emergency circumcision will prevent further attacks of paraphimosis and will prevent the need for follow-up.

To summarise

This study has shown that

1) Paraphimosis is more common in Hindus as compared to Muslims.
2) Time of presentation is between 1^{st} to 4^{th} day. Though it has been mentioned in literature no case of gangrene of glans penis has been reported in any case even in a case which has presented after 15 days.
3) Average time required for circumcision in both the groups was almost same
4) Slightly more post operative complication rate (bleeding and wound infection) was observed in group II which could be tackled easily on OPD basis.

CONCLUSION:

Emergency circumcision can be the most reliable and definitive treatment for paraphimosis, but the prepuce and glans penis are often oedematous and swollen which increases the risk of post operative complications. Still this risk is insignificant and can be managed effectively without much morbidity to patient.

Emergency circumcision should be performed for the paraphimosis if

4) Reduction of paraphimosis is not possible
5) There is no evidence of frank infection like prepucial ulceration or balanitis.
6) There is history of recurrent episode of paraphimosis.

However in cases where there is clear cut evidence of infection like prepucial ulceration, posthitis, balanitis it is safer to reduce paraphimosis. In these cases circumcision should be done electively at a later stage when oedema and infection has settled down.

TABLE 1 AGE DISTRIBUTION

Age group	Group 1	Group 2	Total
0-5 yrs	02	4	6
6-12 yrs	16	10	26
13-20 yrs	10	04	14
21-40 yrs	16	12	28
41-60 yrs	06	18	24
61 and above	00	02	02
Total	50	50	100

TABLE 2. RELIGION WISE OCCURANCE

Religion	Number of patients
Mohammadian(Muslims)	04
Hindu	96
Total	100

TABLE 3.TIME OF FIRST PRESENTATION

Time of presentation	Number of patients
Immediate	04
Within one day	20
2-4 days	68
5-6 days	06
More than six days	02(15^{th} day)
Total	100

TABLE 4. AVERAGE TIME REQUIRED AND INTRAOPERATIVE BLEEDING

Procedure	Time required	Bleeding (swabs soaked)
Elective circumcision(group 1)	16 min	2(5ml)
Emergency circumcision(group 2)	15 min	3(7.5ml)

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FIG 1. SLEEVE TECHNIQUE FOR CIRCUMCISION

		
Paraphimosis	Incisions in sleeve techniques	Sleeve technique in progress

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