

# Emergency Treatment of Paraphimosis by Multiple Needle Puncture Technique in Children

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## ABSTRACT

**Aim:** To determine the efficacy of the needle puncture technique in paraphimosis in children.

**Methods:** This Descriptive study carried out at Sandemen Provincial Teaching Hospital Quetta from February 2016 to October 2016. In this study, 45 patients of pediatric age group (1 day to 13 years) with grade I and grade II paraphimosis were included. Children with balanoposthitis, skin excoriation with cheesy tear over the shaft (grade III), gangrenous glans, haemangioma and other cancerous conditions were excluded. The oedematous prepuce was cleaned local an aesthesia without adrenaline applied and prepuce pierced with a hypodermic needle from one place to upto 15 different places. The edematous prepuce was gently squeezed and pulled to bring it to its normal position. Patients were followed-up for outcome to look for any skin infection, recurrence after one week and six weeks after the procedure.

**Results:** Out of 45 patients 2(4.4%) had recurrence. 7 patients (15.5%) developed skin infection, and two patients (4.4%) had to undergo a dorsal slit.

**Conclusion:** Multiple puncture technique is by far the best in the treatment of paraphimosis.

**Keywords:** Paraphimosis, Multiple Needle Puncture Technique, Treatment, Outcome

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## INTRODUCTION

Paraphimosis is defined as the inability to return the retractile foreskin of the glans. This cause swelling of the glans and foreskin due to the progressive obstruction of lymphatics and veins<sup>1</sup>. This congestion if not treated in time may result in ominous sequelae like penile gangrene and even amputation<sup>2</sup>.

Paraphimosis is a paediatric surgical emergency in uncircumscised children. It is mostly caused by poor hygiene, prolonged catheterization, cystoscopies, and endoscopic procedures if the foreskin is not placed back in its normal position.<sup>3</sup> Many techniques of paraphimosis management are mentioned in various studies though none have been tested in randomized control trials. Substances with high solute concentrations like 50% dextrose and granulated sugar is spread over the glans and foreskin for hours to facilitate manual reduction<sup>2</sup>.

People have also tried mannitol<sup>4</sup> and hyaluronidase<sup>5</sup> injections to relieve the edema. However all these procedures require long time to have an effect. Management of paraphimosis by multiple needle puncture was first done in 1990 by Hondy FC and was shown to be safe and effective way to relieve paraphimosis<sup>6</sup>.

## PATIENTS AND METHODS

This study was conducted in the Pediatric Surgery Department in Sandeman Provincial Hospital Quetta

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from 1<sup>st</sup> February 2016 to 30<sup>th</sup> October 2016. Patient's age ranged from age 1 day to 13 years. Patients with associated skin changes; non-pitting oedema and tight band, balanoposthitis and cancerous conditions were excluded. The procedure was performed under strict aseptic, conditions and skin was cleaned with pyodine solution, local penile block done with Inj. xylocaine without adrenaline according to the weight of the patient. After preparation multiple pricks done according to the severity of the case. The oedematous prepuce was gently pressed and fluid evacuated. The glans was pushed back with thumb, skin retracted back into its normal position. This procedure was completed in 5-7 minutes. Patients were called back for follow up after one week and at six weeks to look for infection and recurrence. The data was entered and analyzed by SPSS version 10.

## RESULTS

In our study, 45 patients underwent the multiple puncture technique. In these patients, the age distribution was 1 day to 13 years. The first group (1-3 years) had 12 patients and two patients (4.4%) developed skin infection but none had recurrence at follow up. The second group (23 patients) was from 3 to 7 years of age. In this group, two patients came with recurrence (4.4%), and three patients (6.66%) had mild skin infection that responded to oral antibiotics and analgesics. In the third group (7 to 13 years) had 10 patients, 2 patients (4.4%) had failed reduction and needed a dorsal slit and Also 2 patients (4.4%) had a mild skin infection which responded to oral antibiotics.

## DISCUSSION

Abnormalities involving the skin coverage of the penis can significantly alter penile appearance, and be a cause of parental concern<sup>1</sup>. Most cases of paraphimosis are iatrogenic, but that condition has unusual causes as well.<sup>2</sup> Paraphimosis is a urologic emergency that has the potential for serious penile injury, including gangrene and tissue necrosis, if left unattended for a period of time<sup>3</sup>.

Paraphimosis can be treated as a medical emergency by manual manipulation, or by dorsal slit (incision)<sup>4</sup>. Reduction of paraphimosis can be a painful and difficult process<sup>5</sup>. The treatment options available for resolving this condition include manual reduction methods, osmotic methods, puncture and aspiration methods and treatments using sharp incision<sup>6,7,8</sup>.

Techniques described to reduce oedema distal to the constricting ring include application of ice packs, compressive elastic bandages, and making a dorsal slit which necessitates later circumcision.<sup>9</sup> Mannitol can be applied in clinical practice for reducing paraphimosis<sup>10</sup>. Many workers have reported treatment by application of granulated sugar on prepuce and glands penis for 1-2 hours until edema reduction is observed<sup>11,12,13</sup>. First described by Hamdy et al<sup>14</sup> in 1990, eleven years later Kumar and Kayle described multiple puncture and glans squeeze technique and concluded that difficult paraphimosis with gross engorgement of the glans can be successfully reduced by this technique as long as the skin changes are not marked<sup>15</sup>. Barone in 1993 described the puncture technique as a simple method that aids in the manual reduction of the paraphimotic foreskin<sup>16</sup>.

Fuenfer and Najmaldin in 1994 reported the 'puncture technique' in which 18 gauge hypodermic needle was used to puncture the oedematous foreskin at multiple sites, followed by gentle manual compression<sup>9</sup>. This was also reported by other workers<sup>17</sup>. Houghton in 1974 described the "iced-glove" method of treatment of paraphimosis<sup>18</sup>.

## CONCLUSION

Multiple puncture technique is by far the best in the treatment of paraphimosis.

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