

## Complication of plastibell circumcision: An experience at Jinnah Medical College Hospital Karachi

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### Abstract

**Objective:** To determine the frequency of various complications of plastibell circumcision.

**Study Design:** This was a prospective descriptive study.

**Setting and Duration:** Jinnah Medical College Hospital from January 2009 to March 2010.

**Methodology:** All patients who underwent circumcision during the above period were followed up from the day of operation to one year.

**Results:** Out of 168 male babies, eleven presented with complications. The observed complications in order of frequency were, bleeding 36.36 %, delayed separation of ring after 10 days 27.27 %, redundant prepusal skin in 18.18 % cases, wound infection in 9.09 % and urethral injury 9.09 %.

**Conclusion:** In general the complications are minor and can be easily managed on out patient basis. In our view better training in plastibell circumcision shall minimize the occurrence of complication.

**Key words:** Plastibell, circumcision, complications.

### Introduction:

Male circumcision is the removal of redundant foreskin (prepuce) from the penis to expose the glans. Circumcision has been performed for more than 5000 years<sup>1</sup>. About 30% of total male population is circumcised of whom 68 % are muslims<sup>2</sup>. In our setup this operation is performed by barbers, medical technicians as well as doctors. The benefits of circumcision has been described in numerous studies, such as reduction of penile cancer risk<sup>3</sup>, cancer of cervix uteri<sup>4,5</sup>, urinary tract infections<sup>6,7</sup>, sexually transmitted diseases (STDs) and lower HIV prevalence. Although circumcision is the commonest surgical procedure performed on male child, complications still arise from all methods used by operators<sup>8</sup>. The commonest method being open dissection and plastibell circumcision. Most of the circumcision performed in neonates and younger children at JMCH are by plastibell device, as it is simple to perform in an out patient setting. The aim of this study was to determine

frequency of various complications of circumcision using plastibell method.

### Materials and methods:

This prospective descriptive study was conducted on 168 male children in an out patient clinic at Jinnah Medical college Hospital Korangi between January 2009 and March 2010. All children were full-term male's without any medical indication or urological anomaly. Babies of age 1 week to 2year, presented in OPD were included in this study. Plastibell method was used for circumcision. Infants were not fed for 1-2 hours prior to the procedure. The skin was prepared with povidone iodine (10 %) solution. A dorsal nerve block was administered using 1% xylocaine plain 0.2ml per kg body wight, using a 27 gauge needle. Plastibell was placed over the glans under the foreskin. A ligature was then tied firmly around the foreskin and tightened into a groove in the plastibell to achieve hemostasis. The plastibell would eventually fall from the penis after wound healing within several days. No

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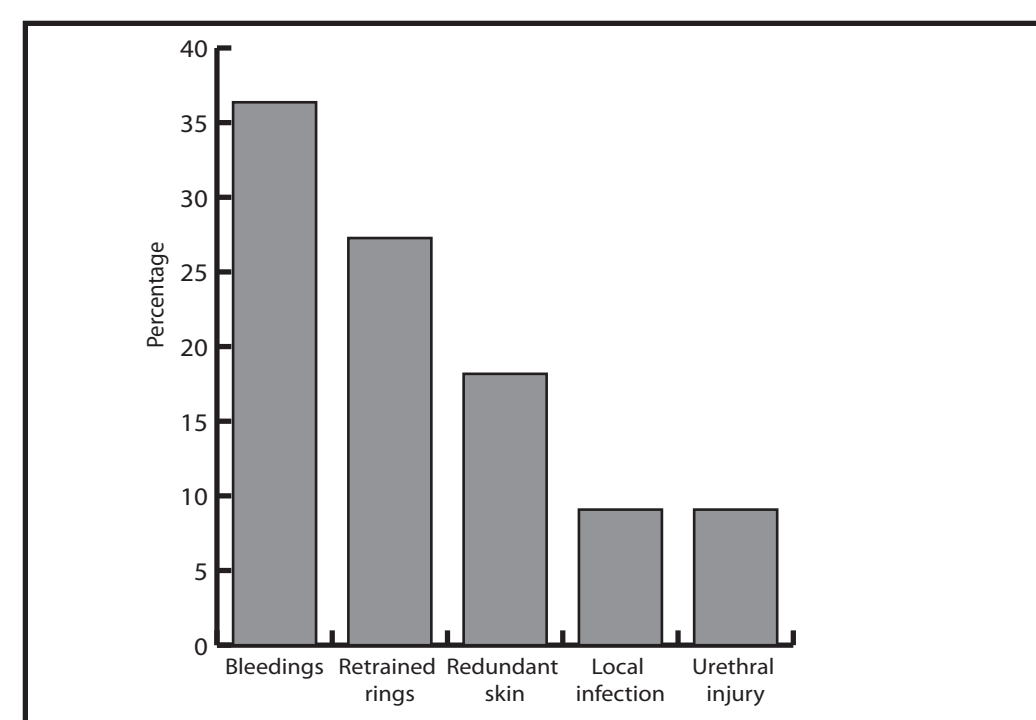
dressing was applied. Paracetamol drops were used as an analgesic. All children were followed up until the wound was healed and ring separated. The complications were noted like bleeding, redundant prepuce, bell entrapment, infection and urethral injury.

### Results:

Out of 168 children 112 were 1 week to 6 months of age and 56 were from age 6 months to 2 years. A total of eleven male children who were aged between 7 days to 2 years presented to the department with complications. The time of presentation ranged between 1 hour and 1 year after circumcision. Out of eleven male babies, four (36.36 %) of them developed bleeding and presented within 24 hours after circumcision. Retaining of the ring (delayed separation) after 10 days of procedure was observed in three (27.27 %) children, and was seen in children above one and a half years of age. Two children (18.18 %) presented with redundant prepuce skin after few weeks of circumcision. One child (9.09 %) developed local infection of minor degree. urethral injury complicated one male baby (9.09 %) after circumcision.

### Discussion:

Male circumcision can be a safe procedure in expert hands<sup>9</sup>. Various epidemiological studies have reported frequency of adverse events. The overall complication rate of the procedure ranges between 0.19 % and 3.1 %<sup>10</sup>. In our study it is almost double i.e. 6.54 % . It is most probably because the procedure was also carried out by the trainee surgeons as well. In general, complications occur less frequently among neonates and infants than among older boys which may reach up to 14 %<sup>11</sup>. A number of studies proposed plastibell method which is simple to perform and complications like, hemorrhage, infection, delayed separation of bell, redundant prepuce are rare.<sup>10,11,12,13</sup> The most frequent complication in our study was bleeding (36.36 %). This most frequent complication is usually seen when the choice of plastibell size is incorrect, and improper tying of ligature around the bell. This complication may be as high as 13.3 %<sup>13,10</sup>. In one local study ,the bleeding was seen as low as 0.63 %<sup>14</sup>



Figure

(Shifa). The impaction (delayed separation) of ring was second most important complication in this study i.e. 27.27 % of individuals. The delayed separation is more common in older children<sup>15</sup> (Isra) because the thickening of prepuce; skin causes delayed necrosis and separation of bell. Redundant prepuce skin was seen in two patients (18.18 %) and may be due to inappropriate size of plastibell, which if large may dislocate proximally or distally. Local infection at circumcision site was seen in one baby which may be due to non sterile settings and may be alarmingly high<sup>16</sup>. One of our patient (9.09 %) developed urethral injury which is quite high (2.1 %) in one study<sup>17</sup>.

### Conclusion:

Based on results of this study, the plastibell circumcision is not complication free. In general, complications are minor and can be treated in out patient setting. However as the complication rate depends on age of the patient, appropriate size of bell, aseptic measures and training. We suggest training and experience in doing plastibell circumcision to minimize the rate of complications.

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