

**NEONATAL BLADDER OUTLET OBSTRUCTION  
WARRANTING EARLY CIRCUMCISION**

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**ABSTRACT**

**Aim:** To report a rare case of neonatal bladder outlet obstruction warranting early circumcision.

**Presentation of case:** We are reporting a case of 36 hour old term male neonate who had early circumcision done on account of acute urinary retention secondary to bladder outlet obstruction.

**Discussion:** Acute urinary retention from bladder outlet obstruction is rather a rare entity in neonates. Similarly, circumcision is usually performed within the first several days of life to ensure that the infant is stable.

**Conclusion:** In cases of reversible urinary obstruction, because the degree and duration of obstruction are the chief determinants of renal dysfunction, early recognition and treatment are the keys to preventing renal loss.

*Keywords:* [meatal stenosis, obstruction, neonate, emergency circumcision]

**1. INTRODUCTION**

Bladder outlet obstruction describes any blockage of urine flow anywhere in the urethra or at the opening of the bladder. The commonest cause of the blockage is posterior urethral valves, which occurs only in males.[1] Other intrinsic and extrinsic pathological processes causing bladder outlet obstruction in neonates include urethral atresia, urethral strictures, congenital urethral diverticulum, congenital ureteropelvic junction or uretero-vesical junction obstruction, vesico-ureteral reflux and urolithiasis.[2]

The practice of circumcision neonatal circumcision arose in many ancient cultures. Circumcision was performed in ancient Egypt and as a ritual by Jews and is described in Genesis (the first book of the Holy Bible.) [3]. Male circumcision became a common medical practice in the 19th century, with improved anaesthetic, surgical and antiseptic technique. Although circumcision is the most common surgical procedure performed, it is not complication free. Bleeding, infection and failure to remove enough foreskin, pain, bruising, meatitis, meatal stenosis, urethral fistula, partial penile amputation, necrotizing fasciitis, penile necrosis and concealed penis have been reported in the literature as complications of circumcision [2]

Circumcision should not be performed until at least 12 to 24 hours after birth to ensure that the infant is stable. This period of observation allows for recognition of abnormalities or

34 illnesses that should either be addressed before circumcision or would be a contra-  
35 indications for the procedure. Contra-indications to circumcision include infants with genitor-  
36 urinary anomalies such as hypospadias, epispadias, chordee, penile webbing and concealed  
37 penis. Neonates with hypospadias should not be circumcised because the foreskin is  
38 frequently used in reconstruction. Premature infants should meet criteria for discharge  
39 before circumcision is performed [4].  
40

## 41 **2. PRESENTATION OF CASE**

42 A 36 hour old term male neonate delivered via emergency lower segment caesarian section  
43 by a primiparous woman on account of breech presentation and prolonged rupture of  
44 membrane. He was referred to our facility on account of difficulty with breathing and poor cry  
45 at birth.

46 Birth weight was 3.3k; Apgar's score was not known. At presentation , he was noticed to be  
47 afebrile, anicteric, acyanosed but dyspnoei with SPO2 of 66% . His chest was clinically clear.  
48 His heart rate was 132 beats per minute without a cardiac murmur. He was evaluated for  
49 severe perinatal asphyxia without neonatal encephalopathy and was subsequently placed on  
50 intranasal oxygen therapy.

51 However, about 10 hours after birth it was noticed that the baby had not passed any urine  
52 since birth. He was in respiratory distress but no facial or pedal oedema. His abdomen was  
53 distended (mostly in the suprapubic region). Subsequent attempt at urethral catheterization  
54 revealed absence of meatal opening. A diagnosis of acute urinary retention secondary to  
55 preputial stenosis was made and he had emergency suprapubic canulation done that night  
56 with size 22FG intravenous canula to relieve the obstruction while awaiting definitive  
57 management.

58 Few hours later, he had circumscision and repair of the preputial stenosis done. The prepuce  
59 was gently retracted manually. A flimsy structure covering the meatus was manually  
60 removed. The patency of the urethral was confirmed by passing a size 5 nasogastric tube  
61 per urethral. Immediate circumscision was done using Gomco clamp. There was minimal  
62 bleeding with the procedure and haemostasis was easily secured. Firm dressing was then  
63 applied and the suprapubic canula was removed leaving the improvised urethral catheter in-  
64 situ.

65 Few hours later, the patient started voiding per urethral. The urethral catheter was removed  
66 .He had electrolytes, urea and creatinine done; all the parameters were within the range of  
67 normal. Abdominopelvic ultrasound done showed normal findings. Patient was clinically  
68 stable and was discharged home after three days.  
69

## 70 **3. DISCUSSION**

71  
72 Bladder outlet obstruction is the main cause of urinary retention in newborns. Delay in  
73 treatment could cause renal obstruction and damage. Hence, it is essential to look for signs  
74 of bladder outlet obstruction in order to relieve it early. The principles of management include  
75 early decompression of the urinary obstruction followed by definitive treatment of the  
76 underlying lesion. Here, we report on a case of neonatal bladder outlet obstruction that  
77 prompted circumcision on the third day of life.

78 The index case did not have externally visible meatal opening. This was missed at  
79 presentation during the routine newborn examination. This was the etiology of the bladder  
80 outlet obstruction and the subsequent urinary retention in this patient. Reported causes of  
81 bladder outlet obstruction in female neonates include ureteroceles, hydrometrocolpos,  
82 neuroblastoma, sacrococcygea lteratoma and rectal duplication. The commonest cause of  
83 the blockage in male neonates is posterior urethral valves. Other causes include urethral

84 atresia, urethral strictures, congenital urethral diverticulum, congenital ureteropelvic junction or  
85 ureterovesical junction obstruction, vesicoureteral reflux and urolithiasis.

86 In line with the principles of management of acute urinary retention, the patient initially had  
87 bladder decompression done with suprapubic canulation before the definitive surgical  
88 treatment. The latter involved gentle retraction of the prepuce and the subsequent remove of  
89 the foreskin using Gomco method of circumcision. This was done early enough to avert long-  
90 term complications of bladder outlet obstruction.

91 The definitive treatment in this patient required early neonatal circumcision occurring on the  
92 third day of life. Great controversy surrounds neonatal circumcision [5]. Most parents based  
93 their decision whether or not to have their newborn son circumcised on three reasons; first,  
94 nonmedical preferences (i.e. religious, ethnic, cultural, cosmetics). second, as a prophylactic  
95 measure against future ailments ('routine' circumcision); third, for some immediate medical  
96 indication. Phimosis is the most common medical indication for circumcision. [6] Putative  
97 indications for neonatal circumcision include preventing UTIs and their sequelae, preventing  
98 the contraction of STDs including, HIV and preventing penile cancer as well as other  
99 reasons for adult circumcision.

100 Timing of circumcision is very crucial but controversial. While the Canadian Paediatric  
101 Society does not recommend routine circumcision for newborns, it recommends that the  
102 ideal time to have circumcision done is between 24 and 72 hours after birth. It is said that  
103 newborns tend to bleed less and fuss less during circumcision. It has been weekly reported  
104 that circumcision complications occur more frequently with increasing age of the patients.  
105 This is thought to be due to hormonally mediated increase in penile and prepuce size and  
106 vascularity.[7] It should not be done before 24 hours because the newborn could have an  
107 undiagnosed medical condition that may pose a contraindication to male circumcision.  
108

#### 109 **4. CONCLUSION**

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111 A high index of suspicion is essential for early recognition and management of bladder outlet  
112 obstruction in neonates due to the potential short- and long-term sequelae. Thoroughly  
113 performed routine neonatal examination is an essential tool to this effect. Prompt diagnosis  
114 and potential surgical planning are essential to allay the anxieties of parents as well as to  
115 identify other potentially clinically significant conditions.  
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#### 119 **COMPETING INTERESTS**

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121 Authors have declared that no competing interests exist.  
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#### 125 **CONSENT**

126 All authors declare that 'written informed consent was obtained from the parents of the child  
127 for publication of this case report and accompanying images. A copy of the written consent is  
128 available for review by the Editorial office/Chief Editor/Editorial Board members of this  
129 journal.

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#### 132 **ETHICAL CONSIDERATION**

133 All ethical considerations for publishing a case report were followed. Patient's identity was  
kept confidential.

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## REFERENCES

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## PHOTOGRAPHS

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FIGURE 1: ABSENCE OF MEATAL OPENING



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FIGURE 2: GOMCO CIRCUMCISSION



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FIG 3: POST- CIRCUMCISSION.



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UNDER PEER REVIEW