



## A STUDY ON METHODS OF CATHETERIZATION OF POSTERIOR URETHRAL VALVE IN NEW BORN MALE CHILD.

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### ABSTRACT

**Introduction:** Posterior urethral valve (PUV) is an obstructive developmental anomaly in the urethra seen in male child. Treatment of PUV needs catheterization.

**Materials and Methods:** Prospective study of 2 years. Total 26 cases of male newborns with PUV. All cases are catheterized with either Infant feeding tube 6FG or 8FG. First feeding tube is inserted with jelly at tip. If failed catheterization, then we attempt method of injecting jelly into urethra. Still failed cases we introduce gloved little finger to the anus of the baby and introduce catheter. Still unsuccessful catheterization, we had cystoscopy and catheterization.

**Results:** Of total 26 cases, only 8 cases could be catheterize by inserting infant feeding tube with jelly at tip. 14 cases were catheterized, by injecting jelly in urethra. 2 cases needed introduction of little finger to anus. 2 cases needed cystoscopy and catheterization.

**Conclusion:** Introducing feeding tube with jelly at tip is having more failure rate. Injecting jelly and catheterization is the best method. In failed cases we can introduce gloved little finger to anus and catheterize. If again unsuccessful we have to do cystoscopy and catheterisation.

**KEYWORDS :** Posterior Urethral Valve, Catheterization, Infant feeding tube, New Born, Cystoscopy

### INTRODUCTION

Posterior urethral valve (PUV) disorder is an obstructive developmental anomaly in the urethra and genitourinary system of male newborns.<sup>[1]</sup> A posterior urethral valve is an obstructing membrane in the posterior male urethra as a result of abnormal in utero development. It is the most common cause of bladder outlet obstruction in male newborns.

It is seen exclusively in males. More severe cases can have renal and respiratory failure from lung underdevelopment as result of low amniotic fluid volumes, requiring intensive care and close monitoring.<sup>[2]</sup> It occurs in about one in 8000 babies.<sup>[3]</sup>

Most patients with PUV have normal physical examination findings. When present, abnormal physical findings are the result of severe renal insufficiency.

Neonates may present with severe pulmonary distress caused by lung underdevelopment lung due to oligohydramnios.

Posterior urethral obstruction was first classified by H. H. Young in 1919. The verumontanum, or mountain ridge, is a distinctive landmark in the prostatic urethra, important in the systemic division of posterior valve disorders:

Type I - Most common type; due to anterior fusing of the plicae colliculi, mucosal fins extending from the bottom of the verumontanum distally along the prostatic and membranous urethra<sup>[4]</sup>.

Type III - Less common variant; a disc of tissue distal to verumontanum, also theorized to be a developmental anomaly of congenital urogenital remnants in the bulbar urethra

Abdominal ultrasound is of some benefit, but not diagnostic. Features that suggest posterior urethral valves are bilateral hydronephrosis, a thickened bladder wall with thickened smooth muscle trabeculations, and bladder diverticula.

Voiding cystourethrogram (VCUG) or Micturating Cysto Urethrogram (MCU) is more specific for the diagnosis.

Diagnosis can also be made by cystoscopy, where a small camera is inserted into the urethra for direct visualization of the posteriorly positioned valve. A limitation of this technique is that posterior valve tissue is translucent and can be pushed against the wall of the urethra by inflowing irrigation fluid, making it difficult to visualize

The standard treatment is primary (transurethral) ablation of the valves.<sup>[5]</sup> Urinary diversion is used in selected cases,<sup>[5]</sup> and its benefit is disputed.<sup>[6][7]</sup>

Regarding treatment, once the new born is presented with uremia, urinary ascites, or not passing the urine, it is mandatory to catheterize the patient. Usually 6FG or 8FG infant feeding tube is used. Infant feeding tube can be fixed with prepuce by suturing. Foley catheter is not usually used for catheterizing PUV. Because its bulb will irritate the small capacity bladder. Catheterisation is also required for MCU and confirming the diagnosis. New borns are catheterized with strict aseptic precaution. Usually Catheterisation in newborns with PUV is done by inserting infant feeding tube with jelly (KY Jelly or Lignocaine Jelly) at tip. Catheterisation in new borns with PUV is difficult. Another method is injecting KY Jelly or Lignocaine Jelly through urethra and catheterize. Another method is introducing gloved little finger to anus of patient and same time catheterize the patient. Finger will reduce the dilated posterior urethra and will help in directing catheter to bladder. Another method is to directly go for cystoscopy and catheterisation.

### OBJECTIVE

A study on methods of catheterization of Posterior Urethral Valve in newborn male child.

### MATERIAL AND METHOD

Prospective study of 2 years duration. Total 26 cases of newborns with PUV. All cases are catheterized with infant feeding tube either 6FG or 8FG, depending upon size of new born urethra. Infant feeding tube can be fixed with prepuce by suturing.

Successful catheterization means urine should flow continuously through catheter. Usually infant feeding tube is inserted with Jelly (KY jelly or Lignocaine jelly) at tip. We tried all cases with this method first. Then we proceed a method of injecting jelly into urethra. Here we introduce 2ml Jelly via a 2 cc syringe. First of all we take a No: 6 FG infant feeding tube. Connect it with syringe. Length of feeding tube can be shortened. Only 3 to 5 cm length of feeding tube is needed. Excess length can be cut away. Insert the tip of feeding tube to tip of urethra and inject 2 cc Jelly. Then take away the feeding tube with syringe and introduce a new feeding tube of 6 FG or 8FG. Still there is difficulty in inserting, introduce gloved little finger to the anus of the baby and then introduce the catheter. Still there is difficulty, go for cystoscopy and catheterization.

### RESULTS

Total 26 cases were attempted with catheterization with infant

feeding tube after applying jelly at its tip. Only 8 cases could catheterize successfully by inserting infant feeding tube with jelly at tip. Rest of the cases it failed. In 3 cases, there was bleeding.

Total 18 failed cases in first method, were attempted with catheterisation after injecting jelly in urethra. 14 cases, had successful catheterisation, on following injecting jelly in urethra. Only 2 cases had bleeding in this method. 4 cases had failed catheterization in this technique. All these 4 cases were attempted with catheterization after introducing gloved little finger to anus. Of the four cases, two cases had successful catheterization following this technique. Two cases had failed catheterization. These two cases had successful catheterization with Cystoscopy and Catheterization.

## DISCUSSION

.During catheterization of new born with Posterior Urethral Valve by introducing infant feeding tube with Jelly at tip is having more failure rate as well as more traumatic. Injecting jelly and catheterization is the best method for catheterizing new born with PUV. It is less traumatic. Introducing gloved little finger to anus can be used in failed cases by above technique. Gloved finger will reduce the size of dilated posterior urethra and direct catheter to reach bladder. If all methods are unsuccessful, we have to go for cystoscopy and catheterization.

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