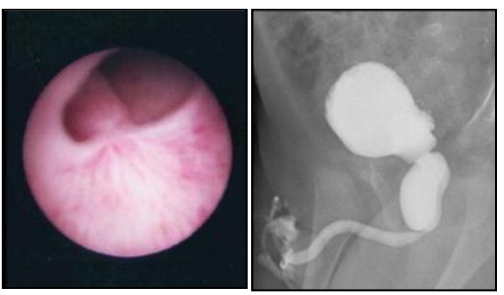
Patient Information Sheet

POSTERIOR URETHRAL VALVES



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What are posterior urethral valves ?

Posterior urethral valve (PUV) is a congenital disorder in which an abnormal leaflet of tissue (valve) in urethra causes obstruction (blockage) to urine flow. It only affects boys. There are 3 types of PUV – type 1 is the commonest; causes obstruction to flow of urine, type 2 is rare and non-obstructive and type 3 is also rare but obstructive. The obstruction to urine flow causes increased bladder pressure which is transmitted to the kidneys via the ureters causing damage to the kidneys.

What causes this problem and how common is it ?

It is not known. It develops during the early stage of pregnancy when the organs are developing. It is not inherited or not occurs due to anything that you may have done during pregnancy. It occurs in 1 in 5000 births.

What are the symptoms ?

The severity of obstruction determines the symptoms and timing of presentation. If it is not diagnosed during pregnancy, then it can present soon after birth with :

- Poor urinary stream, straining, inability to pass urine, passing urine in drops
- Poor feeding, failure to gain weight
- Urinary tract infection
- Lower abdominal mass due to distended bladder

The older child may present with features of kidney damage.

When to see your doctor ?

If an antenatal diagnosis has been made or whenever the above mentioned symptoms are noted.

How is it diagnosed ?

In the presence of suggestive history and clinical examination findings your doctor will order the tests to confirm the diagnosis.

Blood tests : Serum urea, creatinine and blood gases; to asses and monitor the kidney function.

Ultrasound : This shows the dilation of urinary system and thickened urinary bladder.

Voiding/Micturating cystourethrogram (VCUG/MCU) : This is the definitive test for PUV. It is done by passing a tube through the urethra into the bladder and a dye is instilled into the bladder. Then few x ray films are taken of the filled bladder and when the baby is passing urine.

Cystoscopy : A small tube attached to a tiny camera is inserted into the baby's bladder through the urethra. This enables us to see the inside of the urethra and the bladder. The valve can be best seen and treated at the same time by this.

What are the treatments available ?

The treatment involves relief of urinary tract obstruction, prevention of infection, management of kidney and bladder dysfunction.

Relief of urinary tract obstruction: i) catheter drainage to relieve obstruction, drain the bladder and help in stabilising the renal function, ii) once the patient is medically stabilised and fit for surgery then cystoscopy is performed to confirm the diagnosis and surgical relief of the obstruction by valve ablation. The catheter drainage may be required for few days post-operatively, iii) rarely, some patients may require another surgical procedure called "urinary diversion" by making a hole in the bladder (vesicostomy) or ureter (ureterostomy).

Management of kidney dysfunction: These boys may have varying degrees of kidney damage depending on the severity of obstruction. They need regular follow-up under pediatric surgeon and pediatric nephrologist. Supportive treatment for the kidney damage in the form of calcium, vitamin D etc. may

be required. About 1/3 of the patients may ultimately need dialysis or kidney transplantation due to development of end stage renal disease.

Management of bladder dysfunction: These babies have varying degrees of bladder dysfunction. The bladder dysfunction may cause them to pass few drops of urine all the time, progressive kidney damage and repeated urinary tract infection. This entails treatment of constipation, timed voiding, anticholinergic drugs, clean intermittent self-catheterization, bladder augmentation. These details should be discussed with the doctor.

Are there any alternatives to surgery ?

There is no alternative to surgery. Cystoscopic valve ablation is necessary. If this fails then permanent urinary diversion with or without bladder augmentation will be required. In extreme cases kidney transplant may be necessary.

What are the possible complications / what happens after the operation ?

Patient may pass blood in urine for a few days. There is also a small risk of urinary tract infection with fever and pain. These patients may need catheter drainage for few more days and antibiotics. In some cases, it may not be possible to remove the blockage completely. This complication is uncommon but may occur in very small babies. If this is the case then the procedure may be repeated when they are a few weeks older. Very rarely, the urethra can be injured during the procedure and lead to stricture formation.

What is the outlook or future of these children ?

The outcome of the children will depend on the severity of obstruction and extent of the kidney damage at the time of