CONGENITAL URETHRAL VALVES

Herbert B. Eckstein, F.R.C.S.,*

Urethral valves are an uncommon but well recognized congenital abnormality. It is alarming that such a small structure should be able to produce such profound and even fatal changes.

These valves consist of very thin mucosal folds, usually stretching from the lower end of the verumontanum to the side of the urethra, and they are so shaped that although a catheter can easily be passed inwards the outflow of urine is obstructed.

As a result there is back pressure in the urinary tract; the bladder wall hypertrophies, the ureters become grossly dilated and hydronephrosis develops. It should be noted that in a baby the bladder does not distend and it is the upper urinary tract that suffers in the first instance, from an obstruction in the urethra. This is in contrast to adults, where following a urethral stricture or a prostatic obstruction, the bladder will dilate and distend before the upper urinary tract becomes involved.

The diagnosis of this lesion is often not made until the child is several years old and although dribbling of urine or a poor urinary stream may make the parents suspicious and seek medical advice the condition usually presents as secondary urinary infection with attacks of fever or because the child is «not doing well.» Occasionally such children are brought to the doctor because of «enuresis»; the constant dribbling of urine at night leading to such a wrong diagnosis.

On examination, these children are usually small and look ill; the hydronephrotic kidneys and distended ureters can often be felt although the bladder is not distended. Pressure over the bladder produces a few drops of urine only. The blood N. P. N. is raised and the urine specific gravity is at a constant 1010. The one diagnostic procedure of real value is an expression or micturating cysto-urethrogram which will show the dilated posterior urethra and may even

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From Ankara University Hacettepe Medical Center.

* Surgeon. Present address: Hospital for Sick Children, Great Ormond Street, London.

show the valves as a filling defect. Reflux into the ejaculatory ducts may occur.

The treatment is in the first instance a decompression of the urinary tract which should be done through a suprapubic cystostomy. A urethral catheter should not be left in a baby for more than a day or two as infection will result and the subsequent treatment of the valves then becomes more difficult. Suprapubic drainage should be continued until the baby's condition has improved and the N. P. N. has fallen to normal limits; this may take only a week or two, but can take several months.

As far as the actual treatment of the valves is concerned a number of procedures are available. Formerly metal dilators were passed from the bladder downwards in the hope of rupturing these valves or a small punch resectotome was employed. However these blind procedures were generally unsuccessful. At present there are two possible ways in which treatment can be carried out. First, the valves can be resected with a miniature McCarthy resectotome using a diathermy loop under direct vision but apart from the great cost of such an instrument this procedure requires special training and constant practice. The treatment advised by most writers at present[1,2] is an open excision of the valves. The urethra is exposed and dissected free. In babies the procedure can be simplified by splitting the symphysis pubis but this is not possible in older children. The urethra is opened and the valves can be seen (they are disappointingly small) and excised. It is essential to continue postoperative suprapubic drainage for a long time, possibly as long as a year, so as to give the kidneys the greatest possible chance to recover.

The prognosis of treated cases of urethral valves is very poor and we must remember that much of the damage has been done by the time the baby is born. It is now well-established that the fetal kidneys secrete urine so that even if the condition were recognized soon after birth, advanced hydronephrosis could already have developed.

REFERENCES

1. Grob, M.: Lehrbuch der Kinderchirurgie, Thieme, Stuttgart. 1957.
2. Gross, R.: Surgery of Infancy and Childhood, Saunders, New York, 1952.