

## **DETRUSOR HYPOCONTRACTILITY SYMPTOMS IN VALVE BOYS MAY BE AMELIORATED BY ALPHA-BLOCKERS TREATMENT.**

### **Aims of Study**

Vesical dysfunction secondary to posterior urethral valves (PUV) is a clear model in children of hypocontractility following anatomical obstruction relief and detrusor hypercontractility. We showed, by serial pressure-flow studies that bladder dysfunction in PUV changes during childhood through adolescence [1]. Moreover, using mathematical analysis of PFS, we found that detrusor hypocontractility get worse by time [2]. The above findings should support the hypothesis that long-term detrusor hyperactivity, found in infants with valve bladder, leads to detrusor failure, as in BPH patients. Austin et al. indicated that alpha-blockers can be safely used also in children with voiding dysfunction [3]. For this reason we extended alpha-blockers treatment to PUV boys in order to ameliorate symptoms and poor bladder emptying and upper urinary tract dilatations due to hypocontractility.

### **Methods**

We followed since 1985 PUV boys by serial urodynamic studies. 30 of those patients had at least 3 exams and a minimum follow-up of 4 years. 15 patients showed an evolution toward detrusor hypocontractility through years and all followed scheduled voiding and double micturition regimen. 7 of the 15, aged 11 to 18 years, underwent treatment with alpha-blocker for 6 to 24 months (doxazosine 2 to 6 mg, daily) and in the remaining 8, no drug therapy was administered to improve bladder emptying. Out of the 7 who underwent doxazosine treatment, 3 patients (11-13 years) started therapy before and 4 (14–18 years) after puberty. Furthermore, we treated with alpha-blockers 2 younger (aged 4 and 5 years) valve children, who had detrusor hypercontractility and idiopathic detrusor sphincter dyssynergia. At 6 months follow-up, we evaluated in all 9 patients, the effects of drugs either by uroflowmetry (voided volume, Qmax and post-voiding residual urine), either by symptoms (urinary tract infection, straining at voiding, and incontinence) and the upper urinary tract by ultrasound.

### **Results**

Regarding overall results on uroflowmetry, 5/9 patients showed all 3 parameters improvement, 2/9 one parameter improvement only and the remaining 2 patients showed unchanged pattern. Considering age and urodynamic patterns, amelioration of flowmetry/residual urine patterns was found in 1/4 postpubertal and 2/3 prepubertal patients with hypocontractility and in 2/2 young boys with dyssynergia. Symptoms were present in 5/9 patients and ameliorated in 4/5 after treatment. Upper urinary tract dilatation was present only in 4/9 patients and it resolved in 2/4 patients. In the group of 8 patients with hypocontractility, who did not received alpha-blockers, only 1/8 showed a stable improvement with double micturition regimen after the 6-months period. No significant subjective side effects have been referred, but one 5-years child who had headache, ended after reduction of dosage.

### **Conclusions**

Our results confirm the efficacy of alpha-blockers in children with valve bladder, mainly in prepubertal boys. Should be possible that this therapy is effective when detrusor contraction at voiding is sustained yet, that is before development of true hypocontractility and overdistended bladder. The unexpected very good results in the two younger boys with hypercontractility and idiopathic dyssynergia suggest to start alpha-blockers treatment early, to reduce bladder neck and urethral resistences.

### **References**

1. BJU Int., 85: 1104, 2000
2. J.Urol., 165: 2248, 2001
3. NeuroUrol. Urodyn., 18: 262, 1999