

URETHRAL LENGTHENING PROCEDURE IN CHILDREN: THE IMPACT ON QUALITY OF LIFE.

Hypothesis / aims of study

The treatment of urinary incontinence secondary to sphincteric insufficiency is challenging. In children the most common causes of sphincter insufficiency are myelomeningocele and incontinent epispadia. Many treatments were proposed and the most performed is artificial sphincter, which presents satisfactory results but frequently needs revision. Kropp described urethral lengthening, which was modified by Pippi-Salle, with the advantage of easier catheterization. Few reports on the impact of quality of life of these procedures were published. We present our data on long-term follow up of urethral lengthening and the impact on Quality of Life.

Study design, materials and methods

Between September 1995 and April 2003 urethral lengthening according to Pippi-Salle technique and bladder augmentation was performed in 15 patients with sphincteric insufficiency (11 male and 4 female). Thirteen patients had myelomeningocele and two incontinent epispadia. The median age at surgery was 8.7 years (range 5 to 16). Retrospective follow up data was collected including serum creatinine and upper tract imaging. Patients were evaluated at their clinic appointment for continence and QUALYVEEN questionnaire on Quality of Life was applied. The questionnaire has two parts, Specific Impact of Urinary Problems (SIUP) that has 30 questions and embraces four domains: inconvenience, restrictions, fears and impact on daily life, and 9 questions measuring Quality of Life (QoL) in general. Continence was accepted if the patients were dry up to 4 hours.

Results

Median follow up was 7.15 years (range 2 to 10). All of the patients perform clean intermittent catheterization. Ten patients (66.7%) are totally continent, two (13.3%) have urine loss if catheterization is delayed for more than 4 hours and three (20%) are completely incontinent (two of them had necrosis of the bladder wall flap). The QUALYVEEN questionnaire was applied in 10 patients (66.7%). The two patients that had necrosis of the bladder flap were excluded and three did not complete the questionnaire. The QUALYVEEN SIUP part of the questionnaire embraces four domains (inconvenience, restrictions, fears and impact on daily life) each one ranging from 0 to 4, where 0 is the best possible and 4 is the worst. The total SIUP value is the mean value of the four domains. The QoL ranges from - 2 to + 2, where higher scores represent better results. The table shows the QUALYVEEN results.

Table - QUALYVEEN questionnaire results of all patients.

Patient	Inconvenience	Restrictions	Fears	Impact on daily life	SIUP	QoL
1	2.67	1.88	1.63	3.00	2.30	-0.78
2	1.33	1.88	1.13	2.60	1.74	-0.33
3	0.89	2.75	1.38	1.20	1.56	0.00
4	1.78	1.63	1.25	1.00	1.42	0.44
5	0.11	1.00	0.38	0.60	0.52	1.56
6	0.00	1.50	0.50	0.40	0.60	1.10
7	0.56	3.38	0.50	0.80	1.35	0.00
8	0.44	0.63	1.13	1.60	0.95	0.89
9	1.89	2.13	1.50	3.00	2.13	1.33
10	0.44	1.00	0.63	3.00	1.25	1.10
mean	0.83	1.77	0.93	1.72	1.38	0.53
median	0.56	1.63	1.13	1.40	1.39	0.67

Interpretation of results

Twelve patients (80%) became continent after Pippi-Salle procedure. Artificial sphincter has similar rates of continence (range 76 to 90%) but higher need for revision (30% for the AMS 800) [1,2]. Sling procedures in children presents 60% continence rate, lower than the Pippi-Salle technique [3]. The perception of Quality of Life is positive regarding attitude, restrictions, relationship, fears and the possibility of carrying out daily activities. The SIUP evaluation had a moderate specific impact on quality of life, as well as in general Quality of Life. Although continent, most children have associated disturbances, as fecal incontinence and mobility restraint, that may interfere with their QoL evaluation.

Concluding message

Pippi-Salle is an efficacious procedure with a positive impact on Quality of Life in children achieving high long-term rate of continence, infrequent need for reoperation and low cost.

References

1. AMS-800 artificial sphincter. Our experience in the last 20 years. Arch Esp Urol. 2003; 56(9):989-97.
2. The Indiana Experience With Artificial Urinary Sphincters in Children and Young Adults J Urol 2003; 169(2): 650-654.
3. Bladder neck cinch for pediatric neurogenic outlet deficiency. J Urol 2003; 170(4 Pt 2):1501-3.