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POST-HYPOSPADIAS REPAIR PENILE SCORE (PHRPS): A NEW OBJECTIVE TOOL.

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Aim of the study: Lack of an impartial objective method of documenting results of hypospadias repair made comparative evaluation of operative procedures inaccurate and subjective. We introduce Post-Hypospadias Repair Penile Score (PHRPS), a new simple objective tool, facilitating surgical audit and balanced evaluation of outcomes of traditional and innovative procedures.

Methods: Forty post-hypospadias repair children were evaluated using PHRPS comprised of 8 items (0-21 points) (Table-1). It is a modification of previously described scores, HOPE (hypospadias objective penile evaluation) and HOSE (hypospadias objective scoring evaluation). In order to validate our PHRPS, a score was designed to perceive the level of satisfaction -with hypospadias repair- of five hypospadias experts. Five high-quality anonymous pictures of different penile views shown to experts, with a hint of pre-operative meatal location, post-operative erection, curvature, urine stream, presence/absence of fistula and/or meatal stenosis. Degree of satisfaction is recorded as a percentage (0-100%). Patients will also be scored using HOSE score. Score of each patient is expressed as a percentage of maximal score possible. Results from three scores will be compared statistically using paired student t-test.

Main results: PHRPS of patients ranged from 14-21/21 (mean score 17.3±2, percentage 82.4±9.5). Experts average score percentage ranged from 69.9-85.8 (mean 80.3±5.1). HOSE score ranged between 12-16/16 (mean score 14.5±1.5, percentage 90.3±9.4).
There was no statistical difference between experts. HOSE had highest mean. There was statistically significant difference between average of experts' opinion and HOSE ($P < 0.0001$), and between PHRPS and HOSE ($P < 0.0001$). There was no statistically significant difference between average of experts' opinion and PHRPS ($P = 0.12$).

Conclusion: PHRPS is an objective, simple, reproducible and validated tool measuring all relevant and surgically correctable aspects of hypospadias. The statistical correlation between PHRPS and experts' opinions implies its superiority for accurate post-operative evaluation of hypospadias surgery outcome.

Table (1): Post-hypospadias repair penile score (PHRPS) of our 40 children.

Question	Answer	No. of patients
I. Post-operative meatal location	- Distal glanular 4	30 patients (75%)
	- Proximal glanular 3	10 patients (25%)
	- Coronal 2	0 patients (0%)
	- Penile shaft 0	0 patients (0%)
II. Post-operative meatal shape	-Vertical slit 2	24 patients (60%)
	- Circular 1	10 patients (25%)
	- distorted 0	6 patients (15%)
III. Urine stream	-single stream 2	28 patients (70%)
	- Spray 1	10 patients (25%)
	- Multiple streams 0	2 patients (5%)
IV. Curvature during erection	- Straight 3	36 patients (90%)
	- Angulation<10º 2	4 patients (10%)
	- Angulation 10 - 45º 1	0 patients (0%)
	- Angulation > 45º 0	0 patients (0%)
V. Fistula	- None 4	38 patients (95%)
	- Single - subcoronal or more distal 3	2 patients (5%)
	- single - proximal or mega fistula 1	0 patients (0%)
	- Multiple or complex 0	0 patients (0%)
VI. Penile skin	- No scars or linear scar 3	28 patients (70%)
	- Slight scarring & pumps 1	10 patients (25%)
	- Severe Scarring or disfigurement 0	2 patients (5%)
VII. Shape of the glans	- Acorn shape 3	24 patients (60%)
	- Slightly disfigured 2	16 patients (40%)
	- flat or open glans 1	0
	- Severe disfigurement 0	0
VIII. Rotation	- 0 – 30º 2	36 patients (90%)
	- 30 – 70º 1	4 patients (10%)
	- >70º 0	0 patients (0%)

(excellent): with a score of 18-21.
(acceptable) with a score of 13-17.
(poor): with a score of 7-12.
(crippled): with a score of a score of ≤6.