LONG-TERM DURABILITY OF THE HEMI-KOCK CONTINENT STOMA WITH CYSTOPLASTY FOR NEUROGENIC LOWER URINARY TRACT DYSFUNCTION

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Introduction

In 1980, Mitrofanoff described using appendix or ureter as a continent catheterizable channel.[1,2]
An alternative is the hemi-Kock system, using remodeled ileum for augmentation and stapled ileo-ileal intussusception as a continence mechanism.[3,4]
There are many reports of former but not of the latter.

Objective

To determine the long-term durability and need for revisions in a cohort of patients treated from 1987 to 2017.

Methods

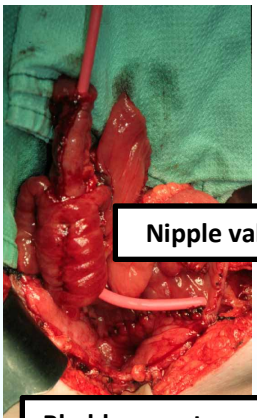
- Retrospective review of 92 patients who underwent the procedure primarily for intractable incontinence.
- Parameters recorded: diagnoses; preoperative and postoperative management; UDS changes; complications

- ***Preoperative evaluation:***

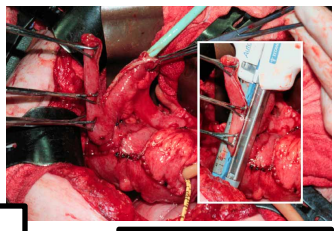
Clinical assessment; Cystoscopy; Video UDS; Upper tract imaging; Renal function assessment; Manual skills assessment

- ***Surgical procedure:***

Bladder neck procedure or closure, if necessary
Clamming bladder
Detubularize ileum with creation of intussuscepted valve; valve tapering
Anastomosis to bladder
Stoma creation

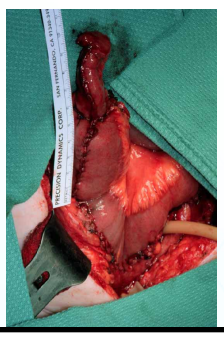


Nipple valve

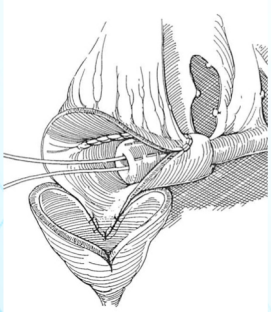


Limb tapering

Bladder anastomosis



Tapered efferent limb



Methods

Number of patients	**92**
Sex N	69 M, 23F
Mean age (range)	36.8 y (18-69)
Diagnosis N (%)	
Spinal cord injury	45 (49)
Spina bifida	23 (25)
Multiple sclerosis	6 (6)
Other neurologic	18 (20)
Preop management (N,%)	
Foley	58 (66)
Suprapubic catheter	12 (14)
Condom or diapers ±CIC	22 (20)
Wheelchair dependent (N,%)	78 (85)

Results

- Mean follow-up 8.8 years (range .33-27.2)
- Bladder capacity increased and DO improved significantly
- At their last follow-up 80 patients (87.5%) were on CIC±pads, 8 had indwelling catheters, 4 had ileal conduits
- 36 (39%) have not required additional surgery
- 56 (61%) have required additional procedures
  - *Valve revisions: 10/12 were in early part of series and modification to taper efferent limb decreased incidence.*
  - *71 interventions: 45 (63%) were local/endoscopic; 26 (37%) open surgery*
  - *56 patients had ≧1; 23 had ≧2 and few had ≧3.*
- 3 have died from unrelated cause and 1 from urothelial cancer
- 2 full term pregnancies

Procedures - All had intussuscepted ileum to create valve		
Bowel segment for augmentation		
Ileum	87	
Sigmoid	5	
Bladder neck procedures	***Males (22)***	***Females (69)***
Sling		34
BN tapering and sling	9	14
BN closure	3	10
No procedure	10	11

Open revisions	**N**	**TUR revisions/minor Sx**	**N**
Bladder neck plasty	2	Bladder stones	36
Continent stoma redo	2	Stomal incision	8
Closure of early urine leak	2	Collagen injection	1
Valve revision	12	**Total**	**45**
Parastomal hernia	2		
Ileal conduit	4		
BN closure	2		
Total	**26**		

Conclusions

- Good option with long-term durability
- BN continence procedure rather than closure permits secondary access should the stoma become obstructed, or transurethral access is required
- Large calibre channel provides benefit in clearing mucus and endoscopic access
- Tapering the efferent limb improved valve outcomes
- Long-term monitoring is required

1. Mitrofanoff P. Chir Pediatr. 1980; 21(4):297-305.
2. Keating MA, et al. J. Urol. 1993; 149(5):1091-4.
3. Kreder K, et al. J. Urol. 1992; 147(5):1248-51.
4. Herschorn S, et al. J. Urol. 1993; 149(5):998-1001.