

Pediatric Continent Diversion: Determinants of Success

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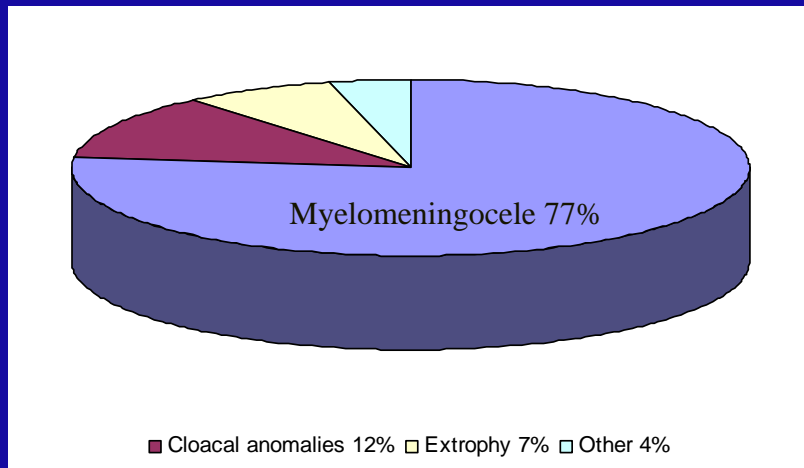


Presentation Objectives

- Review CUD experience
- Compare to published series
- Determinants of success

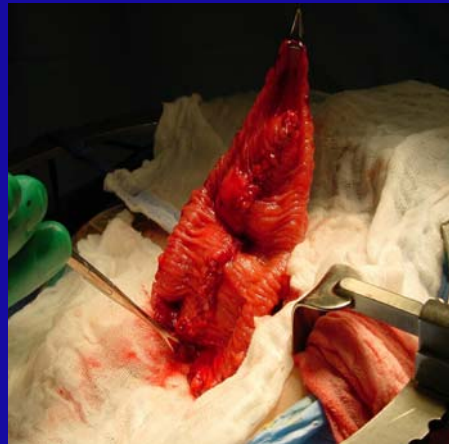
Patients

- 1991, n = 43
29 females
- Median age 12 yrs
(3.4 to 29 yrs)
- Mean follow-up 2.5 yrs
(0.25 to 11 yrs)



Bladder

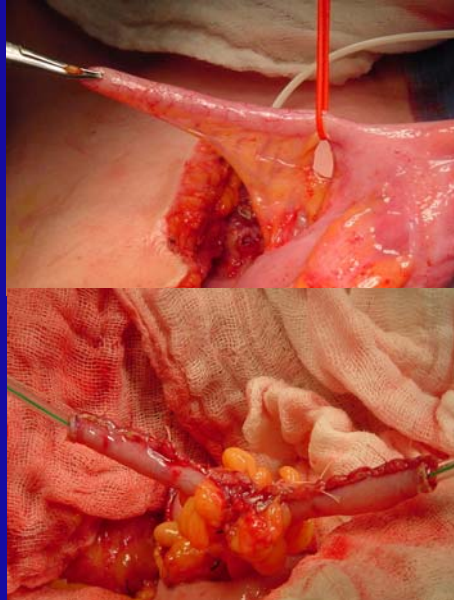
- Ileocystoplasty 39 (91%)
 - Ileocecal 2 (5%)
 - Substitution 1 (2%)
- Cecostomy 19 (44%)
(neurogenic bowel)
- Bladder neck procedure 29 (67%)
 - Burch (15), rectus puboprostatic sling (5), closure (9)



Conduit

- Appendix 33 (77%)

- Detubularized ileum 10 (23%)



Resource Intensity

- Mean surgeon time
4.5 hrs
- Mean OR time
5.6 hrs
- Mean length of stay
11.7 days



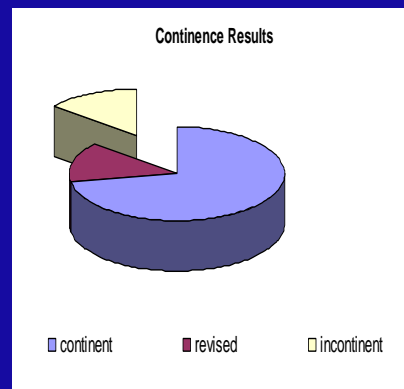
Follow-Up

- D/C with SP & stoma catheter
- Irrigation tid by parents
- Return for CIC teaching
- Clinic, U/S, Bloodwork (lytes, HCO₃)
 - q3 months (1yr), then q6



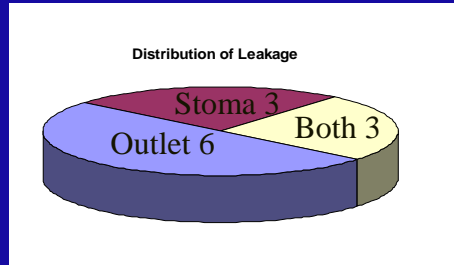
Continence

- Continence > 3 hour dry interval of stoma and outlet
- 31 (72%) initially
+ 6 (16%) revised
= 37/43 (86%) continent
- Upper tracts stable in all



Initial Leakage

- Leakage after CUD 12 (28%)



- 6 patients 9 revisions
 - 5 bladder neck
 - 4 bulking
 - 1 closure
 - 4 stomal
 - 2 bulking
 - 1 plication
 - 1 revision

Compare to Literature

Study	Stomal Continence	Revision
Present Study	93%	23% (6 leak + 4 stenosis = 10/43)
Woodhouse <i>BJU</i> 1994	91%	24%
Kaefer <i>JUrol</i> April 1997	82%	18%
Constantine <i>JUrol</i> June 2000	96%	16%

- Continence definitions vary among studies

Stomal

- Stomal stenosis
 - 4 patients
 - Dilatation/revision
- Stomal prolapse
 - 1 patient
 - stomal revision



Urolithiasis

- 4 bladder stones
 - Cystolithopaxy
- 1 renal stone
 - ESWL
- Importance of regular irrigation routine

Hensle BJU Int Nov 2004

Other

MAJOR

- Requiring ICU admission
 - Rupture (1)
 - Late, non-compliant CIC
 - Respiratory failure (2)
 - Peri-op, restrictive lung disease
- Requiring surgery
 - SBO (2)
 - CSFoma (2)
 - Fistula (1)
 - awaiting repair

MINOR

- Prolonged ileus (3)
- Respiratory infection/atelectasis (3)
- Prolonged urine drainage (2)
- Pyelonephritis (2)
- Decubitus ulcer (2)
- Metabolic acidosis (1)

Determinants of Success

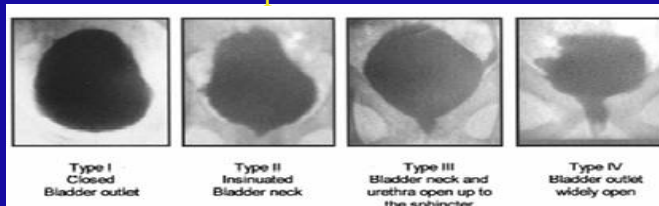
Non-Technical

- Patient Selection
 - failures of CIC, medical therapy, commitment, family
- Education
 - Communication with former patients
 - emphasize commitment to CIC and irrigation
- Team
 - Nurse clinician
- Pre-Admit for NG, bowel prep, IV hydration

Bladder Neck

• Indications

- Rely on videourodynamics
- Low VLPP and open bladder neck at rest



• Technique

- Choice of procedure
 - Liberal use of Burch in females
 - In male, sling or closure if urodynamics indicate
- Augment at time of BN enhancement
- Omental flap

Medel JUrol Oct 2002

Khoury JUrol Nov 1999

Conclusions

- Resource intense undertaking (5.6 hrs, 11.7 days)
- Patient/family education & preparation key
- Continence ultimately achieved in majority (86%)
- May require additional minor procedures (28%)
- Minor complications are common (53%)
- Major complications low frequency high impact (18%)