AUGMENTATION ENTEROCYSTOPLASTY WITH CONTINENT ILEAL CONDUIT. SURGICAL TECHNIQUE AND OUTCOMES

Hypothesis / aims of study
The bladder augmentation is used in the treatment of both structural and functional lower urinary tract disorders, creating a reservoir with adequate capacity and compliance that allows a low pressure filling of the bladder (1-2). The purpose of this paper is to describe an augmentation enterocystoplasty with continent ileal conduit surgical technique and its outcomes.

Study design, materials and methods
Between May 2008 and May 2011, 16 patients underwent augmentation enterocystoplasties with continent ileal conduit. Among the diseases causing bladder dysfunction: 6 (37.5%) were neurogenic bladders due to spinal cord injury, 4 (25%) microbladders due to myelomeningocele, 4 (25%) microbladders secondary to radiotherapy, 1 (6.25%) tuberculous microbladder and 1 (6.25%) idiopathic bladder.
All patients mentioned urinary incontinence (UI) and urinary tract infection as the reason for consultation, 5 (31.25%) of them also had renal failure with aggregate uronephrosis and 4 (25%) used indwelling urinary catheter.

Surgical technique:
Section of 45 cm of vascularized ileum, 15 cm from the ileocecal valve, detubularizing 30 cm of the proximal portion and respecting 15 cm of distal ileum that will form the ileal conduit. (Figure 1)

The open intestinal portion is folded in a "U" shape, joining the adjacent edges. Refinement and intussusception of the ileal conduit, forming an anti-reflux valve. (Figure 2)

The bladder is opened in the sagittal plane, the intestinal patch and bladder edges sutured together. Umbilical resection and umbilical duct externalization. (Figure 3)
Results
The mean follow-up was 30.18 months (13-48). Mean age was 37 years old (23-71). Intermittent catheterization was performed from postoperative day 21.
Immediate complications occurred, 1 (6.25%) urinary fistula on the third post-op day, paralytic ileus in 2 (12.5%) patients, urosepsis in 2 (12.5%) patients. Late complications were urinary tract infection in 4 patients (25%), urinary incontinence in 4 (25%), bladder stones in 2 patients (12.5%), and 1 patient (6.25%) did not adapt to intermittent catheterization and decided to continue with permanent bladder catheter in the ileal conduit.
The average preoperative and post-operative bladder capacity after one year was 112.5 cc (40-230 cc) and 426.25 cc (250-660 cc) respectively (Table 1).

Table 1. Bladder Pressures

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<tr>
<td>Preoperative</td>
<td>Postoperative</td>
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<td>(mean)</td>
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<td>87 cm of H₂O</td>
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Interpretation of results
In the treatment of microbladders, the preservation of the renal function and the control of bladder emptying must be ensured. To accomplish this, a reservoir of adequate capacity and compliance that allows a low pressure filling is necessary, together with a continent diversion system that facilitates the intermittent catheterization. In this way, the persistence of post-void residual urine is avoided, which predisposes to UTI.
In our series, all patients mentioned urinary incontinence and this limited their social activity. and the ileal conduit met the objectives of continence and easy handling. Patients who presented renal failure and uronephrosis improved their biochemical, clinical and imaging parameters after surgery.

Concluding message
The surgical technique for augmentation enterocistoplasty with continent ileal conduit is a feasible and safe approach for the management of urinary incontinence and renal failure in patients with neurogenic bladder and/or microbladder refractory to other treatments.

References

Disclosures
Funding: Hospital Italiano de Buenos Aires Clinical Trial: No Subjects: HUMAN Ethics not Req’d: It is a retrospective study of a surgical technique and its outcomes, which improved symptoms and quality of life of patients. Helsinki not Req’d: This is not a research study Informed Consent: Yes