

ILEOCECAL AUGMENTATION CYSTOPLASTY: “THE INDIANA AUGMENT”

Introduction

Neurogenic bladder (NGB) with incontinence can be devastating for patients with neurologic illness. Augmentation cystoplasty with a continent catheterizable stoma creates a continent, low pressure storage system, with an easily catheterizable cutaneous stoma leading to both decreased urinary tract morbidity and increased quality of life. This study evaluates the use of a novel procedure, the ileocecal augmentation cystoplasty, or “Indiana augment”, for patients with NGB.

Design

Retrospective chart review of Indiana augment procedures by a single surgeon between 1993 and 2009 was performed. Subjects with NGB and minimum 1-yr follow up were included. All patients underwent the modified Indiana continent urinary reservoir procedure in which the large bowel portion of the ileocecal segment is used to augment the native bladder. The efferent limb is tapered and the ileocecal valve is reinforced to form the continent catheterizable cutaneous stoma. Patient demographics, neurologic illness, NGB diagnosis, surgery details, concurrent operations, complications, estimated blood loss, continence outcomes and long term complications were recorded.

Results

Fifty eight patients underwent Indiana augment, 35 met inclusion criteria. Mean age at time of surgery was 39.8 (SD 12.8) years. Neurologic diagnoses included MS (n=12), spina bifida (n=9), and spinal cord injury (n=14). Urodynamic findings were: decreased capacity (n=4), decreased compliance (n=4), detrusor external sphincter dyssynergia (n=5), detrusor overactivity with incontinence (n=3), hypocontractility (n=5), or combination (n=14). Concurrent surgeries included: bladder neck closure (n=3), pubovaginal sling (n=4), hysterectomy (n=3), artificial urinary sphincter (n=1), and cystolithotomy (n=1). Mean estimated blood loss was 253.6 mL (SD 136.5). There were no intra operative complications. Short term complications were: prolonged ileus (n=1), wound infection (n=1), low hematocrit requiring transfusion (n=1). Median follow up was 31 months. Long term complications occurred in 10 (29%) patients: recurrent cystitis (n=4), bladder stones (n=2), SBO (n=1) and stomal revision (n=3). All patients were continent at latest follow up.

Conclusion

This unique modification of the Indiana continent urinary reservoir is not technically difficult to perform. It is an excellent surgical option providing a low-pressure reservoir with a reliable continence mechanism and easily catheterizable stoma with few complications or need for reoperation.

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<i>Is this a clinical trial?</i>	No
<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	Yes
<i>Specify Name of Ethics Committee</i>	The Methodist Hospital IRB
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	No