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OPEN VERSUS LAPAROSCOPIC INCONTINENT ILEOVESICOSTOMY IN THE MANAGEMENT OF NEUROGENIC BLADDER DYSFUNCTION: IMPACT ON THE QUALITY OF LIFE.

Hypothesis / aims of study

Clean intermittent catheterization has been the standard management for patients with neurogenic bladder. However, there is a group unable to perform self catheterization: quadriplegic patients and those with cognitive impairment. Incontinent ileovesicostomy appears as an excellent option to treat such patients. The assessment of the Quality of Life (QoL) is acknowledged as an excellent tool to evaluate the patients perception of improvement of a certain treatment. The aim of this study is to report outcome and changes in QoL of incontinent ileovesicostomy in quadriplegic patients with neurogenic bladder, and to determine if there are advantages in performing a laparoscopic approach.

Study design, materials and methods

Six quadriplegic patients (four females, two males), mean age of 33.66 years old (range 18 to 57), with neurogenic bladder, underwent ileovesicostomy for management of incotinence or complications of chronic catheter drainage. We performed open ileovesicostomy in three cases [1] and laparoscopic ileovesicostomy [2] in the other three, with the bowel-to-bowel anastomosis performed in an end-to-end manner extra-corporeally. The Qualiveen questionnaire was applied preoperatively and after 3 months. Upper urinary tract evaluation and urodynamics were performed in all patients and inform consent was obtained.

Results

Operative time averaged 240 minutes in the laparoscopic group (VL) and 150 minutes in the open procedures. The mean blood loss was similar in both groups (VL: 183cc and open: 200cc). Two patients presented post-operative adynamic ileum, one in each group. Mean hospital stay was 7 days for those who performed laparoscopic and 6.3 days for open surgery. The evaluation of the Quality of Life in both groups is demonstrated in the Table.
The Specific Impact of Urinary Problems (SIUP) part of the Qualyveen questionnaire embraces four domains (inconvenience, restrictions, fears and impact on daily life) each one ranging from 0 to 4, where 0 is the best possible and 4 is the worst. The total SIUP value is the mean value of the four domains. The QoL ranges from - 2 to + 2, where higher scores represent better results.
We observed a mean reduction of 42% in the SIUP score postoperatively and an average improvement in the General Quality of Life of 0.3 (0.3 to 0.62 before and after the surgery). The improvement rate was not different for both techniques.

Interpretation of results

The aim of treating neurogenic bladder is preservation of renal function, by maintaining low urinary storage pressure. Performing incontinent ileovesicostomy achieves this objectie and let patients free from the long term indwelling catheterization and its serious morbidity. External urethral sphincterotomy, the other option in male patients, is also unreliable and still requires a condom catheter drainage, which can promote complications such as penile erosion. The advantages of ileovesicostomy are numerous, despite of some consider it a major intra-abdominal operation. The present study demonstrates that ileovesicostomy (open

or VL) improves the QoL of quadriplegic patients. Laparoscopic surgery increases operative time when compared to open surgery, without providing a shorter hospital stay. It is important to remember that cosmetic is not a major concern in this population.

Concluding message

Ileovesicostomy is an important option in the treatment of patients with severe lower urinary tract dysfunction that are unable to perform self-catheterization. Besides the protection of the upper urinary tract, ileovesicostomy improves QoL in quadriplegic patients. The laparoscopic benefits may not be expected in patients with neurogenic bladder as hospitalization and convalescence can be as long as in open procedure. Further investigations will clarify more properly the role of laparoscopy in urinary diversion.

Table - Patients general characteristics and Qualiveen results.

Patients	*Sex*	*Age*	*Spinal cord lesion*	*Surgery*	*Preoperative Qualiveen scores*	*Postoperative Qualiveen scores*
C. S.	F	18	C6-C7	VL	SIUP 2.27 / G QoL -1.5	SIUP 0.92 / G QoL -0.85
L. F. T.	F	40	C7	VL	SIUP 1.52 / G QoL 0.5	SIUP 0.73 / G QoL 0.22
R. R. P.	M	39	C5	VL	SIUP 1.80 / G QoL 1.2	SIUP 1.09 / G QoL -1.00
K. M. C.	M	24	C5-C6	Open	SIUP 1.71 / G QoL -0.88	SIUP 1.27 / G QoL 0.22
J. S. L.	F	24	C5	Open	SIUP 1.00 / GQoL 0.77	SIUP 0.77 / G QoL 0.77
N. A.	F	57	C6	Open	SIUP 3.6 / G QoL -1.88	SIUP 1.60 / G QoL 0.66

F: female, M: male, VL: videolaparoscopic.
SIUP: Specific Impact of Urinary Problems. G QoL: Index of spinal cord injury patients, measuring the general QoL (not limited to urinary problems).

References

1 – Long-term outcome of incontinent ileovesicostomy management of severe lower urinary tract dysfunction.J Urol,161:1803, 1999.

2 – Laparoscopic ileovesicostomy. J Uro,l 168: 180, 2002.