

## **AUGMENTATION CYSTOPLASTY WITH CATHETERIZABLE STOMA: COMPARISON BETWEEN OPEN AND LAPAROSCOPIC APPROACHES.**

### **Hypothesis / aims of study**

Laparoscopic enterocystoplasty is technically feasible and is a viable alternative to open enterocystoplasty. In order to define clinical outcomes for laparoscopic bladder reconstruction, we compared our prospective experience in laparoscopic augmentation cystoplasty with continent catheterizable ileal stoma to a similar cohort of patients who underwent the same procedure via an open approach.

### **Study design, materials and methods**

A prospective study that included 18 consecutive cases of augmentation cystoplasty with continent catheterizable ileal stoma that were performed at our institute. 9 cases underwent the open approach (8 women and 1 man), and 9 consecutive cases underwent the laparoscopic approach (8 women and 1 man). Rt. colon and terminal ileum were harvested; so that the Rt. colon is used to augment the bladder while the terminal ileum to create the continent catheterizable ileal stoma. Using 2 validated questionnaires before and 1 year after the operation, bladder and bowel functions were assessed. Peri-operative parameters were recorded including operative time, intra-operative blood loss, hospital stay, post-operative oral intake time, and time to meet discharge criteria (3 consecutive meals without nausea, vomiting or increased abdominal distension).

### **Results**

The mean operative time for the open approach was 278 min. versus 468 min. for our initial laparoscopic cases (p value < 0.001). Laparoscopic cases were put in order by which they were performed to draw learning curve with time. There was a decrease in operative time from a mean of 510 min. in first 4 cases to 436 min. in the last 5 cases (p value = 0.05). There was no significant difference as regard the blood loss between laparoscopic approach (178 ml) and open approach (248 ml) (p value = 0.15). Eight of the 9 patients of laparoscopic cases started oral intake within 24 after the procedure. Mean oral intake time was significantly shorter after laparoscopic approach; 1.7 days versus 5.2 days (p value < 0.001). Mean time to meet discharge criteria was significantly shorter with laparoscopic cases (2.8 days) than with open approach (7.1 days) (p value < 0.001). Mean hospital stay was significantly shorter with laparoscopic approach (4.4 days) than with open approach (7.9 days) (p value < 0.001). There was significant improvement in bladder function after both approaches. There was no adverse effect on bowel function after both procedures.

### **Interpretation of results**

Operative time of laparoscopic augmentation cystoplasty is currently longer if compared to the open approach, however, the laparoscopic approach has measurable advantages such as earlier postoperative oral intake time, earlier time to meet the discharge criteria, decreased time for hospital stay, and shorter convalescence. Laparoscopic augmentation cystoplasty is as effective as the open approach in improving bladder function. Both approaches have no negative impact on bowel function.

### **Concluding message**

Our results also show that the laparoscopic approach is as effective as the open approach in improving the patient's quality of life in regards to bladder function. Our initial experience also suggests that laparoscopic approach is technically feasible and is a viable alternative to open approach with a short learning curve for acquiring the necessary surgical proficiency.

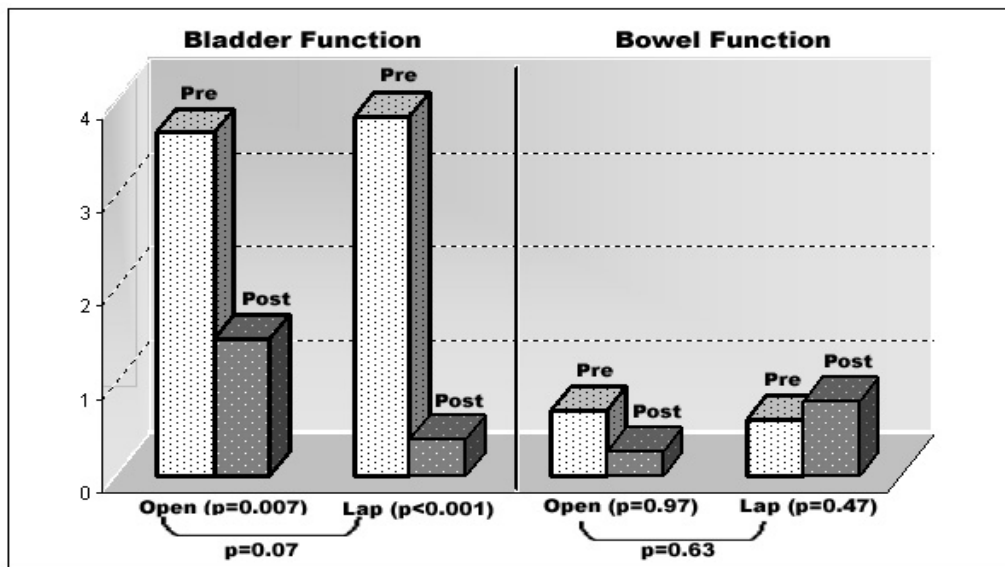


Figure 1: Bladder and Bowel Scales function before and after the open and laparoscopic approaches