

Use of the CHEX Surgical Stapler device in laparoscopic colorectal surgery.

A case control study.

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The widespread availability and use of circular stapling devices to perform colorectal anastomosis have changed surgery especially in laparoscopic procedures. The aim of this study was to assess the safety and effectiveness of a new circular stapler in terms of operative results and cost.

Patients and Methods

From May 2007 to March 2008, we prospectively included 21 patients who underwent colorectal resection for colorectal cancer and/or benign disease (diverticulosis and adenoma).

Colorectal anastomoses were performed by laparoscopy using the CS 28 circular stapler according to the “double stapling” technique introduced by Knight and Griffen. Data included all perioperative items concerning the patient (age, sex, body mass index (BMI), the disease (colorectal benign disease or cancer), the surgical procedure (operative time, technical operative complications, and anastomosis height), the postoperative results (mortality and morbidity). The surgeon (YP, FB) were asked to fill a specific questionnaire (concerning the stapler ergonomics, the opening, the head opening, the device insertion, the facility to close the stapler, the assessment of the rectal doughnut and the overall satisfaction) about the use of the stapler, using an analogic visual scale. Notations were from 0 to 10, increase with the level of satisfaction.

Results.

There were 21 patients (15 female) with a mean age of 61 (range, 20 to 88) years, a BMI of 26 (range 10-21) KG/m². Etiologies included sigmoid diverticulosis (n=9), left colonic adenoma (n=3), colon cancer (n=3), rectal adenoma (n=1) and rectal cancer (n=5). Surgical procedures consisted in sigmoidectomy (n=14), left colonic resection (n=4) and TME (n=3). A temporary ileostomy was performed in 9 patients (43%) i.e. in all patients with TME. An aspiration drainage was placed in the pelvis in 17 patients (81%).

There was no peri-operative mortality. Four patients (19%) experienced post operative complications including anastomotic leakage (n=1, 4.7%), anastomotic hemorrhage (n=1), pulmonary embolism (n=1). Reoperation was required in the anastomotic leakage case. Concerning the surgeons subjective evaluation of the stapler, the mean overall satisfaction score was 8 (range, 3 - 9.5)

Conclusion

Colorectal anastomosis with the CHEX circular stapler is safe without increasing the overall morbidity, especially in terms of anastomotic leakage