

The clinical analysis of Panther staplers for treating 105 cases of low rectal cancer with preserving surgery

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【Abstract】 Objective: To explore the value of Panther circular and linear staplers for treating low rectal cancer.

Method: 105 cases of low rectal cancer in patients were treated using the Panther circular and linear stapler.

Results: All groups were anastomosed, no mortality, no postoperative anastomotic leakage or anastomotic bleeding.

Conclusion: The application of low rectal stapling for preserving surgery is safe and effective.

Key words】 Low rectal cancer, preserving surgery, Panther circular stapler, Linear stapler

With the development of a variety of surgical staplers, it is now easier to perform and the success rate for preserving surgery is enhanced for the treatment of low rectal cancer, in an area where surgical access and anastomosis is difficult. From Feb 2006 to Sep 2009, Yanzhou People's Hospital admitted 105 cases of low rectal cancer for treatment using the Panther circular and linear stapler.

1. Clinical information:

1.1 General information: In these 105 cases 62 were males and 43 were females. The age range of these cases was 36 to 85 with an average age of 54.6. The vertical dia. of the cancers was 2.1 to 6cm with an average of 4.2cm. The transverse dia. of the cancers was 2.8 to 5.6cm with an average of 4.3cm. Of these 15 cases were Duckes A, 10 were B, 5 were C and 2 were D.

1.2 Method of treatment: The abdominal wall was opened, and rectal dissection was carried out by TME. A FLSL45-4.8 linear stapler was inserted to close the rectum at a point 2cm from the distal side of the cancer. The colon was transected at a point 15cm from the proximal side of the cancer. According to the diameter of the rectum, a Panther circular stapler 29# or 32# was chosen. A purse-string was made at the proximal side of the colon and the anvil assembly was inserted into the lumen and the purse string was firmly secured on the anvil shaft within the purse-string notch. The circular stapler was inserted through the anus and the anvil was reassembled on the instrument and pushed until the unit snapped into a fully-seated position. The instrument was fired to complete anastomosis and the pelvis was rebuilt. The pathology check of the cut edge of all of these cases was negative. The Panther circular stapler was then withdrawn through the anus. The integrity of the donuts was examined. The anastomosis of the staple line was inspected for hemostasis and the completed anastomosis was checked for integrity

and leakage. After surgery, all patients were treated with radiotherapy and chemotherapy using the NCCN rule.

1.3 Results: All of this term demonstrated a consistent effective process, no anastomotic dehiscence, no anastomotic bleeding and there were no cases of mortality during the surgery. There were two cases where infection occurred which successfully treated. There was one case where narrowing of anastomosis occurred which was treated by anal dilatation.

2., **Conclusion: Rectal cancer occurs frequently in China. It more often appears at the middle or low section of rectum. Because this position is very deep in the pelvis, the operation is very difficult and the recrudescence rate is high.** To provide a better post-operative quality of life, surgeons focus more on preserving the anus during the surgery. Because the position of the anastomosis is very low, preserving the anus is usually very difficult. Using the circular stapler, the problem of performing an anastomosis in a deep position in the pelvis is resolved. Compare with placing the purse-string by hand, the linear stapler has some advantages: 1. Reduced possibility of contamination and Infection. 2. Reduced overlap of intestine caused by suture purse-string, especially at a wide lumen. 3. Reduced difficulty of anastomosis with different diameters. From the 1980's, the dual stapling technology has been applied in treatment of rectal cancer and was first used in China in the 1990's. Recently, the distance from cancer to distal cutting edge has been reduced from 5cm to 1 to 2cm. and the Panther linear stapler had resolved several problems associated with other staplers. The 45mm wide instrument can be easily inserted into the pelvis, staples with a height of 4.8mm can satisfactorily close thick intestine. The linear stapler allows for greater **access and visibility** in the deeper male pelvis. The stapler is the preferred instrument for application in preserving surgery of low rectal cancer. No anastomotic dehiscence or bleeding was noted in any of the 105 cases, supporting the conclusion that Panther circular stapler is safe and effective.