

## RESEARCH COMMUNICATION

# Comparative Study on the Value of Anal Preserving Surgery for Aged People with Low Rectal Carcinoma in Jiangsu, China

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### Abstract

**Objective:** To compare the efficacy of anal preserving surgery for aged people with low rectal carcinoma. **Methods:** Clinical data for a consecutive cohort of 98 rectal cancer patients with distal tumors located within 3cm -7cm of the anal verge were collected. Among these, 42 received anal preserving surgery (35 with Dixon, 3 with Parks and 4 with transanal operations). The local recurrence and survival rates in the above operations were compared with those of the Miles operation in another 56 patients with rectal cancer. **Results:** The local recurrence and 3-, 5-year survival rates of anal preserving surgery were 16.7%, 64.3% and 52.4%, those of Miles operations were 16.1%, 67.9% and 51.8% respectively ( $P>0.05$ ). **Conclusion:** Anal preserving surgery for aged people with low rectal cancer is not inferior to conventional operations in China, with satisfactory long term survival and comparable local recurrence rates.

**Keywords:** Rectal cancer - surgery - anal preserving surgery - aged Chinese patients

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### Introduction

During the past 20 years, with the dramatic changes in socioeconomic circumstances and lifestyles in mainland China, the mortality rate from colorectal cancer began to increase from 1995, especially in urban areas (Yang et al., 2003; Huang et al., 2004). In the meantime, aging in Chinese population has become a social problem. Therefore, medications in elderly patients with low rectal cancer should be focused on how to improve quality of life and survival as equally as young patients.

We hypothesized that compared with conventional operations, anal preserving surgery could be a medication not sacrificing long term survival and local recurrence rates in treating aged Chinese patient with low rectal cancer in Jiangsu. General information regarding research and clinical work in Jiangsu area has been introduced elsewhere (Huang et al., 2004; Zhou et al., 2009; Jiang et al., 2010; Yan et al., 2010; Huang et al., 2011; Li et al., 2011; Li et al., 2011; Gong et al., 2012; Li et al., 2012).

### Materials and Methods

#### *Patients and Methods*

Patients entering the study had histologically diagnosed rectal cancer. All patients were initially considered operable, with distal tumor extent within 3-7 cm from the anal verge. We recruited men or women 70 to 90 years of age with Eastern Cooperative Oncology Group

performance status of 2 or more and adequate hematologic, renal and liver function. Written informed consent was required from all patients. Patients were excluded from the study if they had had previous anticancer treatment, synchronous colonic tumor, any previous history of malignant tumor, inflammatory bowel disease or ischemic heart disease, or if they were pregnant. The study protocol was approved by the Ethics Committee of Jiangsu Cancer Hospital and Research Institute. The distance between the anal verge and inferior edge of the cancer was assessed by proctoscopy and digital examination. We established the Tumor Node Metastasis staging with maximum possible accuracy.

#### *Treatment*

As described elsewhere (Zhou et al., 2006; Zhou et al., 2011), anal preserving surgery consisted of Dixon, Parks operations, as well as transanal resection. Conventional surgery was Miles operation.

### Results

From August 2002 to December 2006, 98 consecutive patients with primary cancers involving the distal rectum (up to 3-7 cm from the anal verge) were enrolled in the study and underwent anal preserving (12 males, 30 females) or Miles (40 males, 16 females) surgery in the Colorectal Cancer Center of Jiangsu Cancer Hospital & Research Institute. Characteristics of the study population

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**Table 1. Patients Characteristics**

	Miles operation n=56 (%)	Anal preserving surgery n=42 (%)
Gender		
Male	40 (71.4%)	12 (28.6%)
Female		
Tumor site		
3 ~ 5cm from anal margin	16 (28.6%)	30 (71.4%)
5.1 ~ 7cm from anal margin	10 (17.9%)	11 (26.2%)
Pathological type of cancer		
Papillary	46 (82.1%)	31 (73.8%)
Tubular	4 (7.1%)	3 (7.1%)
Signet-ring cell	47 (83.9%)	36 (85.7%)
Mucinous	2 (3.6%)	1 (2.4%)
Stage		
DukesA	3 (5.4%)	2 (4.8%)
DukesB	12 (21.4%)	8 (19.1%)
DukesC	34 (60.7%)	30 (71.4%)
Differentiation		
Well differentiated	46 (82.1%)	35 (84.8%)
Poorly differentiated	10 (17.9%)	7 (15.2%)

**Table 2. Survival and Local Recurrence**

	Miles operation (56 cases)	Anal preserving surgery (42 cases)	p value
Local recurrence	16.1%(9/56)	16.7%(7/42)	>0.05
Three year survival rates	67.9%(38/56)	64.3%(27/42)	>0.05
Five year survival rates	51.8%(29/56)	52.4%(22/4)	>0.05

are listed in Table 1. The two surgical procedures showed no significant difference regarding local and 3-, 5-year survival rates ( $P > 0.05$ ) (Table 2).

## Discussion

One major concern in our study is the occurrence of anal incontinence in several patients who underwent anal preserving surgery. However, no patients needed permanent fecal diversion due to incontinence, and the remaining patients had acceptable sphincter function after a short term supportive care.

Local recurrence is another concern. It is suggested that margin positive (residual cancer detected) after pathological examination is a strong risk factor of local recurrence, but length of inferior margin from the anal verge is not strongly related to local recurrence (Guillem et al., 1997). Another study on Oriental people reported that local recurrence rate of ultra-low anterior resection was 11.0%, not different from abdominal perineal resection that was 11.4% (Morita et al., 2000). In current study, patients with low rectal anal preserving surgery compared with the Miles operation, local recurrence rate was not significantly different ( $P > 0.05$ ).

Therefore, anal preserving surgery for aged people with low rectal cancer is not inferior to conventional operations in China with a satisfactory long term survival rate and comparable local recurrence rate.

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