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ORIGINAL ARTICLE

Clinical experience of large colorectal laterally spreading tumor in a regional hospital: 2-year results

Wen-Hsin Hsu*, **Meng-Shun Sun**, **Hoi-Wan Lo**, **Ching-Yang Tsai**, **Yu-Jou Tsai**, **Pao-Huei Chen**

Division of Gastroenterology, Department of Internal Medicine, Yuan's General Hospital, Kaohsiung, Taiwan

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KEYWORDS
Colorectal laterally spreading tumor;
Endoscopic mucosal resection;
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Summary *Background:* Nonpolypoid colorectal neoplasm has been widely recognized in the past few years. Among nonpolypoid colorectal neoplasms, laterally spreading tumor (LST) is a unique and distinct category in that the tumor grows horizontally with a size >1 cm. It may be easily overlooked during colonoscopy. If the size of the colorectal LST is >2 cm, achieving definite management is also another concerning issue. The aim of this study was to improve our understanding of LST by reviewing its clinical manifestations.
Methods: All the large colorectal LSTs that were diagnosed and managed at our hospital in the past 2 years were reviewed. Basic demographic data were recorded. LSTs were divided into granular (G) and nongranular types (NG), then further subdivided into nodular mixed and homogeneous types for the G group and flat elevated and pseudodepressed types for the NG group.
Results: A total of 28 LST in 28 patients were enrolled, with males being more predominant than females (male/female: 18/10). Mean age of the patients and mean size of the LST were 62.6 ± 9.75 years and 3.4 ± 1.257 cm, respectively. Concerning morphology, 14 were diagnosed as NG and 14 as G group. The rate of malignant change was 28.6% (8/28). Twenty-three of our patients received endoscopic treatment (5 for endoscopic piecemeal mucosal resection 18 for endoscopic submucosal dissection) and five for laparoscopy-assisted colectomy. The cost and length of admission analysis between the endoscopic and operation treatment groups showed significant cost reduction (endoscopy/operation: NTD 28172/82516, $p < 0.001$) and fewer admission days in the endoscopy therapy group (4.74/9.00, days, $p < 0.001$). Subgroup comparison between the G and NG groups did not reveal statistical significance in age, sex ratio, tumor size, rate of malignant change, or location.
Conclusion: Although long-term outcome comparison was lacking, endoscopic treatment should be considered firstly for colorectal LST under the consideration of shorter hospitalization. Most of

* Corresponding author. Division of Gastroenterology, Department of Internal Medicine, Yuan's General Hospital, Number 162 Cheng-Gong 1st Road, Kaohsiung 802, Taiwan.
E-mail address: wshsu026@gmail.com (W.-H. Hsu).

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our analyses between the G and NG groups were statistically insignificant, which is likely to be due to the small population base.

Introduction

Nonpolypoid colorectal neoplasms have been well reported and gradually acknowledged in countries outside Japan. The laterally spreading tumor (LST), defined as a lesion with horizontal growth over 1 cm and relatively limited vertical growth, is a unique endoscopic morphology among nonpolypoid colorectal neoplasms [1]. It also tends to be different from other colorectal neoplasms in genetics analysis [2,3]. There are two morphology classifications for colorectal LST: granular (G) type and nongranular (NG) type. These groups can be further subclassified into homogeneous (HM) and nodular mixed (NM) types for LST-G and flat-elevated (FE) and pseudodepressed (PD) types for LST-NG [1]. These different subclassifications have their own clinicopathological manifestations and may need different treatment strategies. For sizes $<$2 cm, endoscopic resection should be the mainstay treatment. If the size of LST in the colorectum is $>$2 cm, endoscopic resection becomes more difficult and challenging. An operation would be suggested for lesions with a larger size, although endoscopic mucosal resection (EMR) and a newly developed technique, endoscopic submucosal dissection (ESD), have become gradually utilized for large LST resection [4–8]. The clinical manifestations and management have seldom been reported in Taiwan. Here, we reviewed our colorectal LST cases with a size over 2 cm during the past 2 years and analyzed the cost and days of hospitalization between operation and endoscopic management.

Methods

We reviewed our endoscopic electronic report system from July 2010 to August 2012. LSTs with size over 2 cm were selected. Demographic data about age, sex, polyp location and size were identified. All the LST were subgrouped as G and NG types according to the endoscopic morphology. The G group was subclassified into: HM type (Fig. 1A) if the granular pattern was uniform; and NM type (Fig. 1B) if a big nodular lesion was noted. The NG group was subclassified into: FE type (Fig. 1C) if the lesion was flat and evenly raised; and PD type (Fig. 1D) if a slight central depression was detected. If an initial endoscopic morphology was not given, the endoscopic pictures were reviewed and classified according to the above definition. According to the management, patients were further divided into operation and endoscopic groups. EMR, endoscopic piecemeal mucosal resection (EPMR), and ESD were endoscopic methods used in the endoscopic management group. We began to perform colorectal ESD in July 2010. During the early stages, we fully explained the risks and benefits of each management to patients when a lesion over 2 cm in size was identified.

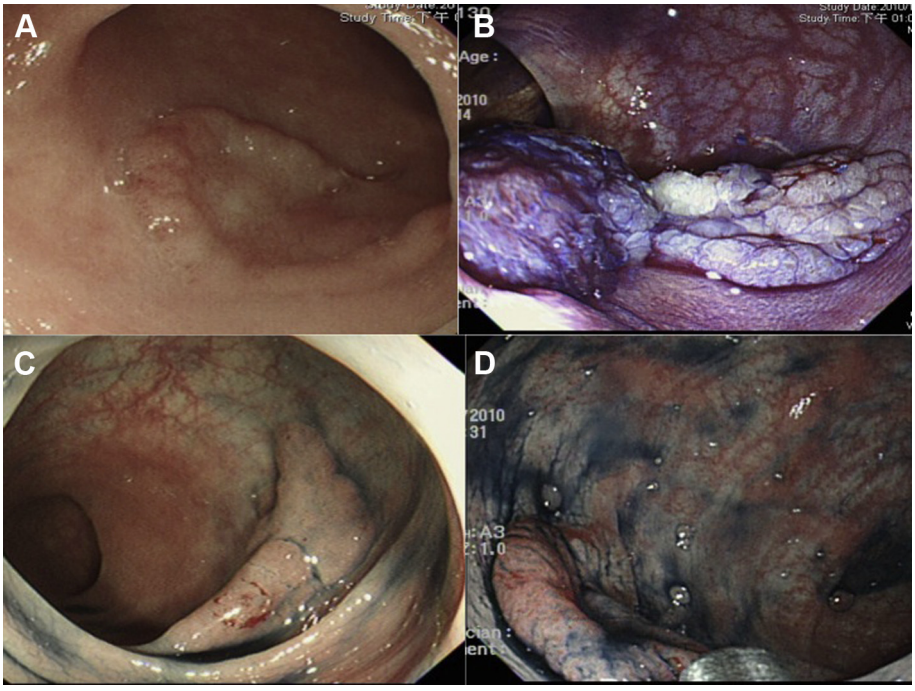

Figure 1 (A) Homogeneous and (B) nodular mixed subtypes of granular laterally spreading tumors; (C) flat-elevated and (D) pseudodepressed subtypes in nongranular laterally spreading tumors.