Clinical outcomes of non-curative endoscopic submucosal dissection with negative resected margins for gastric cancer

Yosuke Toya, MD, PhD,[1] Masaki Endo, MD, PhD,[1,2] Shotaro Nakamura, MD, PhD,[1] Risaburo Akasaka, MD, PhD,[1] Takashi Kosaka, MD, PhD,[1,3] Shunichi Yanai, MD, PhD,[1] Keisuke Kawasaki, MD, PhD,[1] Keisuke Koeda, MD, PhD,[4] Tamotsu Sugai, MD, PhD,[5] Takayuki Matsumoto, MD, PhD[1]

Morioka, Japan

Background and Aims: There has been little information about the long-term outcomes of patients with early gastric cancer (EGC) treated by non-curative endoscopic submucosal dissection (ESD) with negative resected margins (R0 resection). We aimed to compare the clinical outcomes of non-curative ESD with R0 resection between patients who underwent additional gastrectomy and those who did not.

Methods: Among EGC patients treated by ESD from 2002 to 2010, 66 patients were treated by non-curative ESD with R0 resection. Patients received either additional gastrectomy (group A, n = 45) or were followed up without gastrectomy (group B, n = 21). The clinicopathologic findings and the subsequent clinical course were compared between the 2 groups.

Results: Patients in group A were younger than those in group B (68.0 vs 71.0 years, $P = .006$). The follow-up period was longer in group A than in group B (7.8 vs 5.9 years, $P = .011$). The percentage of patients who died of any cause was not statistically lower in group A than in group B (13.3% vs 33.3%, $P = .06$). Although the overall survival rate was higher in group A than in group B (93.3% vs 76.2%, $P = .028$), disease-specific survival rates did not differ between the 2 groups (97.8% vs 100%, $P = .495$). A Cox proportional hazards model showed that gastrectomy was not an independent factor associated with overall survival.

Conclusions: Careful follow-up may be an alternative strategy to gastrectomy for a subgroup of patients treated by non-curative ESD with R0 resection. (Gastrointest Endosc 2017;85:1218-24.)

INTRODUCTION

Endoscopic submucosal dissection (ESD) is an established, standard treatment for early gastric cancer (EGC) with negligible risk of lymph node metastasis.[1-3] ESD enables en bloc resection of lesions in most cases of EGC, which contributes to accurate histologic evaluation. In addition, ESD provides other benefits, such as minimal invasion, preservation of the entire stomach, and a resultant improvement in postoperative quality of life compared with surgery.[4] A large number of clinical studies have revealed excellent long-term outcomes after ESD for EGC,[1,2,5-9] even for elderly patients[10-13] who met the absolute and expanded indication and curability criteria, as defined in the guidelines of the Japanese Gastric Cancer Association (JGCA)[14] and the Japan Gastroenterological Endoscopy Society (JGES).[15]

Abbreviations: CI, confidence interval; EGC, early gastric cancer; ESD, endoscopic submucosal dissection; HR, hazard ratio; JGCA, Japanese Gastric Cancer Association; JGES, Japan Gastroenterological Endoscopy Society; SM, submucosal; UL, ulcerative findings.

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Current affiliations: Division of Gastroenterology, Department of Internal Medicine, School of Medicine, Iwate Medical University, Morioka, Japan (1), Kaiunbashi Endoscopy Clinic, Morioka, Japan (2), Department of Endoscopy, Iwate Prefectural Central Hospital, Morioka, Japan (3), Department of Surgery, School of Medicine, Iwate Medical University, Morioka, Japan (4), Division of Molecular Diagnostic Pathology, Department of Pathology, School of Medicine, Iwate Medical University, Morioka, Japan (5).

Reprint requests: Yosuke Toya, MD, Division of Gastroenterology, Department of Internal Medicine, Iwate Medical University School of Medicine, Uchimaru 19-1, Morioka 020-8505, Japan.

If you would like to chat with an author of this article, you may contact Dr Toya at ytoya@iwate-med.ac.jp.

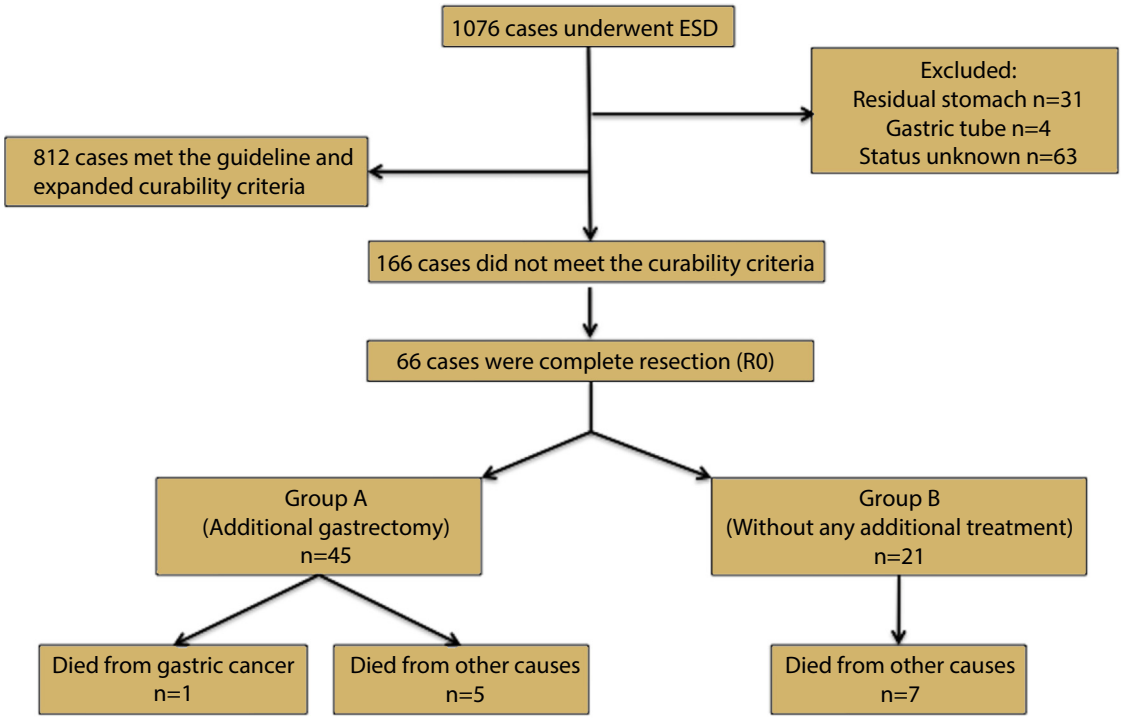

Figure 1. Flowchart and clinical outcomes of patients enrolled in this study. *ESD*, endoscopic submucosal dissection.

In cases of EGC after non-curative ESD, the guidelines recommend open or laparoscopic surgical resection because of the clear risk of lymph node metastasis.[14,15] However, determining whether or not additional gastrectomy should be performed is a challenge for physicians because most patients are elderly and tend to have many comorbidities. To date, only a few studies have reported the outcomes of non-curative ESD.[16-18] In addition, long-term outcomes of patients with EGC after non-curative ESD with negative resected margins (R0 resection) have not been reported. The aim of this study was to clarify the long-term clinical outcomes of non-curative ESD with R0 resection.

METHODS

Patients

We performed ESD for 1076 patients with EGC at our institute between June 2002 and December 2010. The ESD procedure was performed by using a flex knife[19] (KD-630L; Olympus, Tokyo, Japan), dual knife (KD-650Q; Olympus), IT knife[20,21] (KD-610L, KD-611L; Olympus), or a combination of these. Among these 1076 treated cases, 31 cases with a remnant stomach, 4 cases with a gastric tubes, and 63 cases of unknown status were excluded. Of the remaining 978 patients, 812 patients who met the curability criteria, as described in the next paragraph, were excluded.[14,15] Of the remaining 166 patients, 66 patients in whom R0 resection with negative surgical margins was achieved were included in the present study (Fig. 1). These 66 patients were divided into 2 groups: those who underwent additional gastrectomy (group A, n = 45) and those who were followed without any additional treatment (group B, n = 21). The selection of either gastrectomy or observation without intervention was determined by the chief physician of each patient in consideration of the possible risks for surgery, such as comorbidities. Written informed consent was obtained from all patients before ESD. This study protocol was approved by the ethical committee of Iwate Medical University.

Curability of ESD was based on the JGCA[14] and JGES[15] guidelines. When a lesion is resected en bloc, less than 2 cm in diameter, predominantly differentiated type, pathologically intramucosal carcinoma (pT1a), in the absence of ulcerative findings (UL(-)), associated with no lymphovascular invasion (ly0, v0), and has negative resected margins (R0), it is considered a curative resection by absolute indication. When a lesion is resected en bloc, and is (1) 2 cm or greater in diameter, predominantly differentiated type, pT1a, and UL(-); (2) less than 3 cm, predominantly differentiated type, pT1a, and UL(+); (3) less than 2 cm, predominantly undifferentiated type, pT1a, and UL(-); or (4) less than 3 cm, predominantly differentiated type, pathologically minute submucosal (SM) cancer less than 500 μm (pT1b/SM1); and with negative resected margins (R0 resection), it is considered curative resection by expanded