

Enucleation of Esophageal Submucosal Tumors: A Single Institution's Experience

Sumin Shin, MD, Yong Soo Choi, MD, PhD, Young Mog Shim, MD, PhD, Hong Kwan Kim, MD, PhD, Kwahanmien Kim, MD, PhD, and Jhingook Kim, MD

Department of Thoracic and Cardiovascular Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Republic of Korea Department of Thoracic and Cardiovascular Surgery, Seoul National University Bundang Hospital, Seoul National University College of Medicine, Seongnam-si, Gyeonggi-do, Republic of Korea

Background. Esophageal submucosal tumors (SMTs) are usually benign, and surgical enucleation is widely accepted as the treatment of choice. The goals of this study were to investigate the surgical outcomes after enucleation of esophageal SMTs and to establish the feasibility of video-assisted thoracoscopic enucleation.

Methods. We performed a retrospective review of 87 patients who underwent enucleation of esophageal SMTs between 1995 and 2011 at Samsung Medical Center.

Results. There were 59 men and 28 women in the study group, with a mean age of 43.3 years (range, 20–73 years). Fifty-eight (67%) patients were asymptomatic. Among the remaining patients, the most common symptom was dysphagia (n = 12). Transthoracic approaches were used in 79 patients, including 63 patients who underwent video-assisted thoracoscopic enucleation. Transabdominal approaches were performed in 8 patients. Pathologic diagnosis included leiomyoma (n = 78

[89.7%]), gastrointestinal stromal tumors (GISTs) (n = 5 [5.7%]), schwannoma (n = 3 [3.4%]), and hemangioma (n = 1 [1.1%]). The thoracoscopic enucleation group had a significantly shorter median hospital stay compared with the thoracotomy groups (5 versus 6 days; $p = 0.013$). Overall, there were 2 postoperative leaks, including in 1 patient who underwent reoperation after enucleation. With the exception of 2 patients, there was no other major complications. One patient underwent esophagectomy for tumor recurrence after enucleation of GISTs.

Conclusions. Overall, surgical outcomes were excellent after enucleation. The thoracoscopic approach was feasible for most patients and was correlated with a shorter hospital stay. However, careful management is warranted after enucleation of GISTs considering the recurrence risk.

(Ann Thorac Surg 2014;97:454–9)

© 2014 by The Society of Thoracic Surgeons

Esophageal submucosal tumors (SMTs) represent a heterogeneous group that accounts for less than 1% of all esophageal neoplasms; autopsies show an incidence of 8 to 43 cases per 10,000 populations [1, 2]. Leiomyoma is the most common benign tumor of the esophagus and accounts for 70% to 80% of esophageal SMTs [2]. Other types, such as gastrointestinal stromal tumors (GISTs) are very rare. Because of the similar clinical, endoscopic, and radiologic features of these tumors, definitive diagnosis may not be possible until postoperative histologic and immunohistochemical examination is performed [3].

Surgical treatment has been the therapy of choice for esophageal SMTs, and enucleation is widely accepted as sufficient treatment [4, 5]. However, some cases of GISTs with malignant potential may require esophageal resection, which has higher rates of morbidity and mortality [3, 5–7]. Traditionally, thoracotomy and laparotomy have been popular methods for enucleation [4, 5]. Recent

reports on the feasibility of enucleation using minimally invasive techniques have suggested that such techniques may be difficult to use on large lesions and may increase surgical complications [8–13].

We present surgical outcomes after the enucleation of esophageal SMTs and evaluate the feasibility of enucleation using video-assisted thoracic surgery (VATS).

Patients and Methods

Study Population

Eighty-seven patients who underwent enucleation of esophageal SMTs between February 1995 and November 2011 at Samsung Medical Center were included in this study. Their medical records were reviewed retrospectively. The Institutional Review Board of the Samsung Medical Center approved this study and waived the requirement for informed consent.

Preoperative Evaluation

Patients underwent comprehensive preoperative evaluations, which included esophagogastroduodenoscopy (EGD), endoscopic ultrasonography (EUS), esophagography, and chest computed tomography (CT) scans.

Accepted for publication Oct 11, 2013.

Address correspondence to Dr Choi, Department of Thoracic Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine, 50 Irwon-dong, Gangnam-gu, Seoul, 135-710, Korea; e-mail: choi.smcts@gmail.com.

Abbreviations and Acronyms

CT	=	computed tomography
EGD	=	esophagogastroduodenoscopy
EGJ	=	esophagogastric junction
EUS	=	endoscopic ultrasonography
GIST	=	gastrointestinal stromal tumor
IQR	=	interquartile range
SD	=	standard deviation
SMT	=	submucosal tumor
VATS	=	video-assisted thoracic surgery

Operative Approach and Technique

Preoperative surgical evaluations were discussed with the members of our thoracic surgery department. Indications for operation included the presence of symptoms, evidence of an increase in tumor size, and the need to confirm the pathologic diagnosis. The surgical approaches were largely dependent on the location and size of the tumors. We preferred to approach tumors located in the upper and middle esophagus through the right side of the chest. However, if the tumors leaned to 1 side, the tumor was also approached through the affected side, depending on the surgeon's preference. Tumors located in the distal esophagus that had not reached the esophagogastric junction (EGJ) were mostly approached through the right side. Tumors located near the EGJ or lying over the EGJ were approached transthoracically through the left side or transabdominally. In terms of transthoracic enucleation, if the overall dissection of the esophagus was anticipated because of the shape of tumor, we preferred to approach through the right side regardless of the location of the tumor. All transthoracic approaches were performed at the lateral decubitus position.

After the first successful video-assisted thoracoscopic enucleation in 2001, we preferred to use VATS for cases that required a transthoracic approach. For this operation, patients were intubated with a double-lumen tube to allow for single-lung ventilation. Subsequently, a 3- or 4-port placement was chosen based on the preference of the operator.

After localization of the tumor, the mediastinal pleura was incised longitudinally, and a myotomy was performed over the tumor. The tumor was removed gently to prevent mucosal damage. Air inflation of the esophagus through endoscopy was used to check the dissected area, or a Levin tube was used to confirm the integrity of the mucosa. In all patients, the muscular layer was approximated with interrupted sutures after enucleation to prevent the formation of a pseudodiverticulum.

Follow-Up

For patients who underwent repair of mucosa during enucleation, the patient received nothing by mouth until we confirmed the mucosal integrity by esophagography. The choice of procedure depended on surgeon choice and extent of injury. If the surgeon thought the extent of mucosal injury considerable, the patient usually received

nothing by mouth until the seventh day after the operation. In contrast, if the injury was not significant, an oral diet was resumed 2 to 3 days after the operation. We also kept the chest tube in place until we confirmed the mucosal integrity with esophagography. For patients with mucosal injury, follow-up esophagography was performed on approximately the seventh postoperative day before discharge. In contrast, patients without mucosal injury in whom leakage was not anticipated, follow-up esophagography was undertaken earlier in the hospital or later in the outpatient department. If a patient had symptoms that were suspected to be related to the operation or an abnormal finding was observed in the esophagogram, we performed follow-up in the outpatient department. The interval of follow-up was based on each case. For patients with GISTs, chest CT scans with contrast was performed every 6 months postoperatively for 2 years and then annually. EGD was also performed in patients with GISTs every 1 or 2 years.

Statistical Analysis

Categorical data are presented as frequencies and were compared by χ^2 tests or Fisher's exact tests. Continuous data are described by the mean \pm standard deviation or range for normally distributed data or by the median and the interquartile range (IQR) for data that were not normally distributed. Continuous data were compared using the independent *t* test or the Mann-Whitney *U* test according to the distribution of the data. To assess the feasibility of VATS enucleation, we limited the analysis to patients who underwent enucleation through a transthoracic approach (thoracotomy versus VATS). Patients whose operation was converted to thoracotomy were included in the thoracotomy group. Statistical significance was assumed at a probability (*p*) value less than 0.05. All statistical analyses were performed using IBM SPSS Statistics, version 19.0 (SPSS Inc, Chicago, IL).

Results*Patient Characteristics*

Patient characteristics are described in [Table 1](#). There were 59 men and 28 women, with a mean age of 43.4 years (range, 20–73 years). The majority of the tumors arose in the middle (*n* = 36 [41.4%]) and lower thirds of the esophagus or at the EGJ (*n* = 35 [40%]). Fifty-eight (67%) patients were asymptomatic and their tumors were discovered incidentally by screening EGD during health examinations. The most common symptom that patients reported was dysphagia (*n* = 12). The mean tumor size in all patients was 5.5 ± 3.26 cm (range, 0.8–20 cm). A comparison of the mean tumor size according to the presence of symptoms revealed that patients with symptoms had a significantly larger mean tumor size than did patients without symptoms (6.0 ± 2.41 cm versus 5.2 ± 3.60 cm; *p* = 0.046).

Operative Approach and Postoperative Outcomes

The transthoracic approach was performed in 79 patients and the transabdominal approach was performed

Download English Version:

<https://daneshyari.com/en/article/2872584>

Download Persian Version:

<https://daneshyari.com/article/2872584>

[Daneshyari.com](https://daneshyari.com)