A New Paradigm of Endoscopic Cricopharyngeal Myotomy with CO2 Laser
Shun-ichi Chitose, MD; Kiminori Sato, MD; Sachiyo Hamakawa, BA; Hirohito Umeno, MD; Tadashi Nakashima, MD
Department of Otolaryngology-Head and Neck Surgery, Kurume University School of Medicine, Kurume, Japan

INTRODUCTION
Over the past decade, endoscopic cricopharyngeal myotomy (ECPM) using a CO2 laser has been introduced as an alternative surgical procedure to transcervical cricopharyngeal myotomy (TCPM). Although a wide resection of cricopharyngeal muscle with TCPM has a sufficient potential to improve cricopharyngeal dysphagia, it has often caused surgical morbidity and complication as compared to ECPM. However, ECPM is not yet widely done because of its rather highly qualified surgical technique. It is likely that the endoscopic technique of posterior vertical myotomy alone does not provide sufficient opening of the upper esophageal sphincter due to postoperative adhesion of the cricopharyngeal muscle. Therefore, in this surgical procedure against cricopharyngeal dysphagia, not only myotomy but also resection of the cricopharyngeal muscle is highly required. We present a new paradigm of ECPM and discuss its advantages and applications.

METHODS AND RESULTS

METHODS AND RESULTS

Case Report
Patient: 75 F
Chief examination: a mild dysphagia for three years
Clinical examinations: Laryngoscopy revealed significant salivary retention in the piriform sinuses. In videofluorography, the contrast medium did not pass easily through the upper esophageal sphincter as the cricopharyngeal opening was not sufficient, and a cricopharyngeal bar presented at the level of cricopharyngeal region. (Figure 2A)
Diagnosis: Cricopharyngeal dysphagia
Surgery: ECPM according to above technique
Postoperative process: In videofluorography of postoperative day 5, a cricopharyngeal bar disappeared, and the passage of contrast medium at the level of cricopharyngeal region recovered. (Figure 2B) The patient's feeding tube was removed, and a full liquid diet was successfully started and continuously swallowed. On postoperative day 10, a regular diet was begun. Laryngoscopy revealed no salivary retention in the piriform sinuses on postoperative day 14. The patient has symptom-free for period of 10 months.

DISCUSSION
This ECPM is able to selectively cut off the horizontal part of the cricopharyngeal muscle that is absent of the median pharyngeal raphe. The direct visualization of the introitus is enlarged. (Figure 4) Thus, the direct visualization of the intraluminal diameter and the intrinsic compression before and after myotomy.

CONCLUSIONS
This endoscopic technique presented here will provide a more sufficient opening of the upper esophageal sphincter by eliminating the problem of postoperative adhesion of the cricopharyngeal muscle. Furthermore, this endoscopic technique is less invasive and requires less operating time than the classic transcervical cricopharyngeal myotomy.

REFERENCES