

Endoscopic Submucosal Dissection for the Treatment of Superficial Pharyngeal Squamous Cell Carcinoma

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ABSTRACT

Progress in endoscopic technologies, such as magnifying endoscopy and narrow band imaging, has increased endoscopists' ability to detect superficial Pharyngeal Squamous Cell Carcinoma (PSCC), leading to an increase in reported cases. At the same time, new Endoscopic Submucosal Dissection (ESD) techniques enabling lesions to be removed en bloc regardless of their size are now available to treat lesions not only in the stomach but also in the esophagus and colon.

Keywords: Superficial Pharyngeal Cancer; Endoscopic Submucosal Dissection (ESD)

INTRODUCTION

Within the past decade, the use of ESD has expanded to the treatment of superficial PSCC. In 2006, Shimizu et al., became the first to report the use of ESD for this purpose [1]. Subsequently, Iizuka et al., reported a new, improved version of ESD together with the long-term results of its use [2,3]. The present article discusses in greater detail how ESD can be applied to improve the outcomes of superficial PSCC treatment.

ADVANCES IN TECHNIQUE

The pharynx is the area where the swallowing and vomiting reflexes occur and also serves as a passageway of the respiratory system. Therefore, general anesthesia is essential for ESD to ensure a stable view while preventing aspiration. When first introduced as a form of superficial PSCC treatment, ESD was performed without laryngeal elevation because of the lack of auxiliary equipment. Incorporating the use of a direct laryngoscope marked an improvement in this technique, but the procedure was rendered more technically difficult through the interference of the laryngoscope and scope. Moreover, while the surgical view was better with a direct laryngoscope than without it, it was inferior to the view provided by the curved laryngoscope.

Endoscopic Laryngopharyngeal Surgery (ELPS) has been performed by otolaryngologists ever since Sato et al., described their curved laryngoscope technique in 2006 [4]. In ESD as well,

the curved laryngoscope provides a good field of view, making en bloc resection easier than ever to perform. The fundamental procedural difference between the ESD and the ELPS is the surgeon's eye. In ELPS, the surgeon is an otolaryngologist, with the endoscopist serving as the eye providing the field of view. In ESD, on the other hand, the surgeon and the endoscopist are one. The relative merits of these two techniques have not been compared, and physicians at each institution currently treat patients using whichever of the techniques they are more familiar with.

ESD is indicated for lesions that are clinically node-negative and have no muscular layer involvement. However, in cases of solitary lymph node involvement in the ipsilateral neck, local tumor resection with lymph node dissection may be the treatment of choice. In such cases, ESD resection alone is effective. On the other hand, the more invasive techniques of ELPS, Transoral Laser Microsurgery (TLM), Transoral Robotic Surgery (TORS), and Transoral Videolaryngoscopic Surgery (TOVS) may be used to treat cases involving metastatic lymph nodes and/or muscle layer invasion [5-7].

Several studies have examined technical aspects of ESD, demonstrating methods of traction that can facilitate dissection. Such methods include Fraenkel's laryngeal forceps, threaded clips and the double-scope method [8-10]. The choice of method should be based on considerations of economy, feasibility, and utility. The Fraenkel laryngeal forceps ranks highest in these

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Received: December 01, 2020; **Accepted:** December 15, 2020; **Published:** December 22, 2020

Citation: Iizuka T (2020) Endoscopic Submucosal Dissection for the Treatment of Superficial Pharyngeal Squamous Cell Carcinoma. J Carcinog Mutagen. 11:357.

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terms provided the operator achieves proficiency in performing the technique. Furthermore, a previous study reported that ESD may be performed in a manner tailored to the lesion site, underscoring the versatility and safety of this procedure [3].

LONG-TERM RESULTS

When examining long-term results, trials with a larger number of cases are more reliable. In previous studies of ESD, only those of Muto et al., and Iizuka et al, enrolled more than 100 cases [3,11]. The results of a study by Muto et al. and Iizuka et al. demonstrated similar findings, with the five-year Overall Survival rate (OS) and the Cause-Specific Survival (CSS) rate being 71% at 97% in the former and 84.1% and 100% in the latter, respectively. On the other hand, in their study of TLM, Weiss et al. analyzed more than 200 cases [5]. Although comparisons are not straightforward because patients with advanced cancer or cervical lymph node metastasis were included, the five-year OS rate was 68%, and the disease-specific survival rate was 97% in patients with stage I-II disease.

Thus, early detection and therapeutic intervention can improve outcomes. From this perspective, ESD can play an important role in improving the outcomes of superficial PSCC treatment.

CONCLUSION

The role of ESD in the treatment of superficial PSCC is expanding in Japan; indeed, its use is gradually becoming more widespread not only in Asia, but also in the West, thanks to its safety and utility. Provided appropriate training in the use of this technique is given, ESD can become a mainstay in the treatment of superficial PSCC.

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