Endoscopic therapy for circumference esophageal squamous cell neoplasia—a retrospective study

Introduction

大论文：食管癌、早癌优势、全周型病变（特殊类型）、内镜下治疗方法包括切除/非切除、无比较——研究目的

早期食管鳞癌内镜下治疗效果好（接近外科手术，但优势、、；内镜下包括切除/非切除，包括、、；全周以ESD为主，但狭窄不可避免；射频的应用；两者对比无报道）

Esophageal cancer is the seventh most common cancer in the world, with the mortality rate ranks sixth globally[综述1]. Whatever regions, males seem to be more susceptible than females to esophageal cancer, which is more evident when it comes to Eastern Asia, where approximately 2.6 times differences is found between genders[综述1]. In China, esophageal squamous cell carcinoma account for more than 90% of esophageal cancer[指南2]. Esophageal squamous cells neoplasia(ESCN) confined to lamina propria mucosae(m2) was considered to have very low risk for lymph node metastasis and lymphatic invasion, thus named“early cancer”, which adding to the feasibility of endoscopic treatment for intraepithelial neoplasia (squamous dysplasia) as well as superficial esophageal squamous carcinoma limited to m2[引言2][指南1]. Endoscopic submucosal dissection(ESD) has been widely utilized in the resection of early-staged esophageal cancer partly attributed to its superiority in the complete resection (en bloc resection) of lesions compared to other endoscopic treatment such as endoscopic mucosal resection (EMR) or radiofrequency ablation (RFA). ESD enables a thorough histological analysis of resected tissue and a accurate evaluation of the effectiveness of treatment. Nevertheless, to perform ESD is relatively technically demanding and risky considering the longer procedure time and more chance for complications like perforation and strictures. Since RFA has been endorsed to be a effective modality and recommended as preferred endoscopic ablation therapy for Barrett’s esophagus[NEJM], its application in esophageal squamous cells neoplasia has been gradually explored and emerged a promising result at present, although experience still limited. In clinical practice, there are ESCN involving the whole-circumference of esophagus or mosaic appearance lesions which requires entire circumferential dissection. Our study aims to evaluate whether RFA would surpass ESD in treating such kind of lesions.

Materials and Methods

Patients and Study design

Between February 2016 and May 2019, patients admitted to the department of Gastroenterology of Zhongda Hospital who underwent endoscopic submucosal resection or balloon-based endoscopic rediofrequency ablation were evaluated for study eligibility. Patients were included in the study if all of the following criteria were met:

1. Aged between 18 and 75
2. Unstained or light-stained lesions under Lugol’s chromoendoscopy occupying whole circumference of esophagus or have a mosaic appearance which would requires an entire circumferential dissection
3. Pretreatment pathological results revealed low-grade squamous intraepithelial neoplasia (LGIN) or high-grade squamous intraepithelial neoplasia (HGIN) or tumor in situ and is completely flat (type 0-IIb).
4. The longitudinal length of the lesion should be longer than 5cm.
5. Computed tomography scan showed no sign for distant metastases nor lymphadenopathy.
6. Informed consent signed before procedures.

Patients were excluded if any of the following criteria were met:

1. Incapable of receiving endoscopic treatment for severe comorbidities such as severe disease of circulatory or respiratory system or coagulation disorders with international normalized ratio INR>2 or platelet count less than 75,000/mL
2. Having esophageal strictures before interventions of the present study
3. Having lesions invading beyond m3,tumor metastases or lymphadenopathy

The institutional review board approved the study protocol.

Procedures

ESD

RFA

Statistical analysis

**Results**

During the study period, a total of # patients who underwent ESD or RFA were eligible for our study, of which # were treated with ESD and # with RFA. Basic characteristics of them were showed in Table1. of

|  |  |  |  |
| --- | --- | --- | --- |
| Table 1 Basic characteristics of patients and lesions | | | |
|  | ESD(n=#) | RFA(n=#) | *p* value |
| Age, y, mean ±SD |  |  |  |
| Male proportion |  |  |  |
| Alcohol drinking |  |  |  |
| Cigarette smoking |  |  |  |
| Family history of malignant esophageal disease |  |  |  |
| Longitudinal tumor size，mm，mean±SD |  |  |  |
| Tumor location |  |  |  |
| Circumferential extension of tumor |  |  |  |
| Pretreatment evaluation of tumor invasion depth |  |  |  |
| HGIN |  |  |  |
| LGIN |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Table 2 Outcomes | | | |
|  | ESD(n=#) | RFA(n=#) | *p* value |
| No of balloon dilation needed |  |  |  |
| Hospital time |  |  |  |
| Hospital expense |  |  |  |
| Adverse event |  |  |  |
| Perforation/Mediastinal emphysema |  |  |  |
| Bleeding |  |  |  |
| Infection |  |  |  |
| Stricture |  |  |  |
| Discomfort related to procedures |  |  |  |
| Chest pain |  |  |  |
| Fever |  |  |  |
| Others |  |  |  |
| Completely remission rate |  |  |  |

**Discussion**

**References**