

Observation of the Pharynx to the Cervical Esophagus Using Trans-nasal Endoscopy with Image-enhanced Endoscopy for Early Detection of Head and Neck Cancers

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Trans-nasal endoscopy has rapidly become widespread due to lower degree of discomfort and the lesser impact on cardio-pulmonary system. However, it has been a problem that in image quality and maneuver ability ultrathin endoscopy is inferior to trans-oral endoscopy. But recently ultrathin endoscopes have made tremendous progress in the past ten years. T e

Results

According to the General rules for clinical studies on head and neck cancer in Japan, carcinoma in situ and subepithelial cancers with or without lymph node metastasis, are defined as a superficial cancer [14].

In this study, we detected 22 superficial cancers of the oral cavity. Previous efforts to detect such cancers using trans-oral endoscopy have failed. In addition, we were never able to detect early cancers located at base of tongue in the past, but since implementing the intra-oropharyngeal U-turn method, we have detected more than 10 cases [15].

We were also never able to detect early cancers located at the pharyngoesophageal junction in the past, but since implementing the modified Valsalva maneuver, we have detected more than 20 cases. Between 2008 and 2016, a total of 164 cases of 227 lesions of superficial head and neck cancer were detected by trans-nasal endoscopy, which is more than twice as many as were detected with conventional screening (Table 2).

lesions	97	227
Piriform sinus	41 (rt19-lt22)	80 (rt42-lt38)
Posterior wall	24	39
Postcricoid	1	11
Lateral wall	2	12
Anterior wall	2	14
Posterior wall	15	22
Superior wall	5	10
Floor of mouth	0	11
Tongue	1	7
Buccal mucosa	0	4

Table 2 The superficial



cases of en coexistent with esophageal cancer [4]. In 2014, a new trans-nasal endoscopy device with Blue laser Imaging (BLI) was developed. Furthermore, Linked Color Imaging (LCI) was developed. The LCI mode allows for detailed observation from a distance. The new generation image-enhanced endoscopy is also useful as well as NBI system.

In this retrospective study, between 2008 and 2016, a total of 164 cases of 227 lesions of superficial head and neck cancer were detected by trans-nasal endoscopy, which is more than twice as many as were detected with conventional screening. This study is not prospective, not randomized, and performed by one institution, so there is a limitation. But, the method for wide visualization of pharynx provided an excellent endoscopic field of pharynx which is not possible using conventional method. If early stage cancers can be detected with this screening method, the prognosis of the patients will be improved. While this technique has not yet caught on in Japan, it is very easy to perform and not expensive, so we recommend screening the high-risk patients, which include heavy drinkers, heavy smokers, and those with esophageal cancer.

Conclusions

Observation of the pharynx to the cervical esophagus using trans-nasal endoscopy with image-enhanced endoscopy is useful for early detection of head and neck cancers.

References

1. Slaughter DP, Southwick HW, Smejkal W (1953) Field cancerization in oral stratified squamous epithelium: Clinical implications of multicentric