

Endoscopy under general anesthesia for detecting synchronous lesions of head and neck squamous cell carcinoma

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See “Efficacy of endoscopy under general anesthesia for the detection of synchronous lesions in oro-hypopharyngeal cancer” by Yoichi Ono, Kenshi Yao, Yasuhiro Takaki, et al., Clin Endosc 2023;56:315–324.

Patients with hypopharyngeal squamous cell carcinoma (SCC) often present with synchronous or metachronous lesions in the upper aerodigestive tract, including the lungs, oro-hypopharynx, and esophagus,¹ owing to field cancerization, a biological process in which repeated exposure to carcinogens leads to carcinogenic alterations.² The incidence of synchronous and metachronous second primary tumors in patients with hypopharyngeal SCC ranges from 17% to 30.1%, with the esophagus being the most common site.^{3,4} In patients who undergo endoscopic resection of superficial oro-hypopharyngeal SCC, the metachronous recurrence rate is approximately 21% to 26.6%.^{5,6} Therefore, intensive screening tests are crucial for the early detection of synchronous and metachronous lesions of hypopharyngeal SCC.

Atkinson et al.⁷ introduced the role of panendoscopy in the early detection of synchronous lesions in patients with head and neck malignancies. Panendoscopy is a combination of direct laryngoscopy, esophagoscopy, and bronchoscopy. Several studies have reported the usefulness of panendoscopy for re-

vealing synchronous lesions in appropriately selected patients after risk stratification.⁸⁻¹⁰ Despite the added value of panendoscopy, preoperative general endoscopy remains relevant owing to its cost-effectiveness, especially in cases with negative findings.^{11,12} However, unlike the esophagus, which can be observed using white-light endoscopy, Lugol chromoendoscopy, and narrow-band imaging, the oro-hypopharynx is challenging to observe because of spatial limitations and the patient's gag reflex. In particular, because the oro-hypopharynx is difficult to observe using Lugol chromoendoscopy in conventional sedated endoscopy, the presence of synchronous lesions is also difficult to detect.

Ono et al.¹³ reported the capability of endoscopy under general anesthesia (GA), compared with that of conventional sedated endoscopy, for detecting superficial oro-hypopharyngeal SCC lesions. The mean number of lesions detected per patient was significantly higher on endoscopies performed under GA than on endoscopies performed under conventional sedation (1.47 vs. 1.17, $p < 0.001$). In their study, the synchronous lesions newly detected on endoscopy under GA were successfully resected endoscopically. Moreover, most lesions were small and had an even surface with few changes in color. This finding implies that endoscopy using white-light endoscopy or narrow-band imaging has limitations in detecting small superficial lesions with a color similar to that of the surrounding mucosa.

Endoscopy under GA is helpful in detecting multiple synchronous lesions as it enables systematic observation by securing sufficient space, without disturbances such as the cough or

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gag reflex. However, as the authors mentioned, this method is not practical as a screening test because of the burden of GA and its low cost-effectiveness. Further studies are needed to determine whether a difference in prognosis exists between patients who undergo endoscopy under GA and those who undergo conventional sedated endoscopy for detecting metachronous lesions after the initial treatment.

Early detection of synchronous lesions at the time of hypopharyngeal SCC diagnosis is crucial for endoscopic treatment. Therefore, detailed observation of the oro-hypopharyngeal area during routine screening endoscopy is necessary. As demonstrated by Ono et al.,¹³ endoscopy under GA, along with panendoscopy, is helpful when selectively performed in patients stratified as having a high risk for recurrence.

Conflicts of Interest

The authors have no potential conflicts of interest.

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REFERENCES

- Morris LG, Sikora AG, Patel SG, et al. Second primary cancers after an index head and neck cancer: subsite-specific trends in the era of human papillomavirus-associated oropharyngeal cancer. *J Clin Oncol* 2011;29:739–746.
- Slaughter DP, Southwick HW, Smejkal W. Field cancerization in oral stratified squamous epithelium; clinical implications of multicentric origin. *Cancer* 1953;6:963–968.
- Yamamoto K, Takano K, Kondo A, et al. Clinical and prognostic analysis of hypopharyngeal squamous cell carcinoma with synchronous and metachronous multiple malignancies. *In Vivo* 2018;32:165–170.
- Rennemo E, Zätterström U, Boysen M. Impact of second primary tumors on survival in head and neck cancer: an analysis of 2,063 cases. *Laryngoscope* 2008;118:1350–1356.
- Kinjo Y, Nonaka S, Oda I, et al. The short-term and long-term outcomes of the endoscopic resection for the superficial pharyngeal squamous cell carcinoma. *Endosc Int Open* 2015;3:E266–E273.
- Yamaguchi H, Sato H, Tsukahara K, et al. Co-treatment with endoscopic laryngopharyngeal surgery and endoscopic submucosal dissection. *Auris Nasus Larynx* 2021;48:457–463.
- Atkinson D, Fleming S, Weaver A. Triple endoscopy: a valuable procedure in head and neck surgery. *Am J Surg* 1982;144:416–419.
- Metzger K, Horn D, Pfeiffer T, et al. Is panendoscopy a necessary staging procedure in patients with lacking risk factors and oral squamous cell carcinoma? *J Craniomaxillofac Surg* 2019;47:1968–1972.
- Koerdt S, Raguse JD, Neumann F, et al. Value of panendoscopy in the identification of synchronous malignancies in patients suffering from oral squamous cell carcinoma without clinical signs of a second primary tumor. *Anticancer Res* 2021;41:2039–2044.
- Noor A, Stepan L, Kao SS, et al. Reviewing indications for panendoscopy in the investigation of head and neck squamous cell carcinoma. *J Laryngol Otol* 2018;132:901–905.
- Lang K, Menzin J, Earle CC, et al. The economic cost of squamous cell cancer of the head and neck: findings from linked SEER-Medicare data. *Arch Otolaryngol Head Neck Surg* 2004;130:1269–1275.
- Tom MC, Ross RB, Koyfman SA, et al. Clinical factors associated with cost in head and neck cancer: implications for a bundled payment model. *J Oncol Pract* 2019;15:e560–e567.
- Ono Y, Yao K, Takaki Y, et al. Efficacy of endoscopy under general anesthesia for the detection of synchronous lesions in oro-hypopharyngeal cancer. *Clin Endosc* 2023;56:315–324.