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Current Concepts and Updates in the Screening of Upper Aerodigestive Tumours

Esophageal Squamous Cell Carcinoma (ESCC) and Head & Neck Squamous Cell Carcinoma (HNSCC) are closely related due to the concept of the "field change effect". Both cancers face similar histological and genetic changes, and are exposed to the same carcinogens, such as alcohol and smoking. The incidence of a second primary neoplasm can be as high as 10-30% in these patients. The aim of screening is to detect malignant or pre-malignant conditions at an early stage, in order to improve the overall outcome and preserve the affected organ. Image-enhanced endoscopy (IEE) refers to a range of endoscopic imaging technologies, including magnification (near-focus imaging and optical/digital zoom), optical techniques (narrow-band imaging [NBI], intelligence colour enhancement, autofluorescence), and chromoendoscopy (indigo carmine). These technologies have been validated to improve the detection and assessment of the depth of invasion by investigating the vascular pattern at the mucosal level. Advancements in artificial intelligence have enabled commercially available systems to enhance the completeness of assessment, detection, and characterization of lesions. Endoscopic submucosal dissection (ESD) and Endoscopic laryngopharyngeal surgery (ELPS) can provide curative, organ-preserving options for early-stage disease. Furthermore, recent advancements in endoscopic and surgical robotics have the potential to make these technically demanding procedures more accessible to surgeons. In conclusion, specialized centers should identify patients with specific risk factors and provide professional screening programs to improve outcomes and quality of life through organ-preserving resections.