Aetiology

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Iatrogenic perforation secondary to endoscopic procedures such as dilatation of strictures or achalasia is the most common cause. Other endoscopic procedures such as EMR/ESD/ - POEM may result in leakage if there is transmural disruption and mucosal defects are not closed properly . Spontaneous emetogenic perforation (Boerhaave’s syndrome) results from a sudden increase in oesophageal pressure against a closed glottis from vomiting. Perforation from direct penetrating trauma is - rare as the oesophagus is a deep-seated organ. Blunt external trauma rarely causes oesophageal perforation. Foreign body ingestion, especially with sharp objects, may perforate the oesophagus. Corrosive ingestion can also lead to transmural necrosis and disruption of the oesophageal wall. Patients with EOO may present with spontaneous perforation. Oesophageal cancer can perforate, and the prognosis is usually poor since it reflects the underlying advanced disease. Aetiology

The aetiological factors for the development of oesophageal cancer vary between the two main cell types (Table 66.3). Genetic predisposition may be important in the pathogenesis of oesophageal squamous cell cancer. While smoking and alcohol intake are independent contributing factors, genetic polymorphism is important in individuals with chronic alcohol consumption. Approximately 36% of East Asians show a physiological response to drinking that includes facial flush - ing, nausea and tachycardia. This facial flushing response is - predominantly related to an inherited deficiency in the enzyme aldehyde dehydrogenase 2 (ALDH2). Alcohol is metabolised to acetaldehyde by alcohol dehydrogenase and the acetaldehyde y ALDH2 to acetate. Individuals with is in turn metabolised b variants of the ALDH2 gene may have a suboptimal level of the enzyme, leading to the accumulation of the carcinogen acetaldehyde.

(c) Tumour resection (d) Finish resection (e) Mucosa closure and haemostasis

For squamous cell cancer, dietary and environmental fac tors are important. Nitrosamines and their precursors (nitrate, nitrite and secondary amines), commonly found in preserved food, such as pickled vegetables, have been identified as predis posing factors. Nutritional depletion of certain micronutrients, particularly vitamins A, C and E, niacin, riboflavin, molybde num, manganese, zinc, magnesium and selenium, as well as dietary deficiencies of fresh fruit and vegetables, together with an inadequate protein intake, predisposes the oesophageal e thelium to neoplastic transformation. Other dietary risk factors include consumption of hot beverages, chewing betel nuts and drinking yerba mate in South American countries. Patients with other aerodigestive malignancies are at particularly high risk, presumab ly because of exposure to similar environmental carcinogens. Using oesophageal cancer as the index tumour, multiple primary cancers are found in about 10% of patients, of which 70% are in the aerodigestive tract. The overall incidence of synchronous or metachronous oesophageal cancer in patients with primary head and neck cancer is estimated to be 3%. The rise in incidence of adenocarcinoma coincides

with the increase in obesity , GORD and Barrett’s oesophagus in Western populations. GORD a ff ects up to 44% of the general population in the USA and approximately 5–8% will develop Barrett’s oesophagus, with an estimated annual rate of neo plastic transformation of 0.2–0.5% per year. Ye r b a m a t e is a herbal tea made from the leaves and twigs of the Ilex paraguariensis

Factor Squamous Adenocarcinoma cell cancer + Smoking +++ +++ – Alcohol + – Hot beverages + – N-nitroso-containing food (e.g. pickled vegetables) + – Chewing betel nut + – Drinking yerba mate + – Dietary de /f_i ciency of fresh green vegetables, fruits and vitamins + – Low socioeconomic class + – Fungal toxin or virus + + History of radiation to mediastinum + – Lye corrosive stricture +++ – History of upper aerodigestive malignancy + – Plummer–Vinson syndrome + – Achalasia – ++ Obesity – +++ Gastro-oesophageal re /f_l ux Barrett’s oesophagus – ++++

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