RECENT ADVANCES IN MANAGEMENT OF OESOPHAGEAL CARCINOMA

Essay

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List of Abbreviations

AC	*Adenocarcinoma*
AJCC	*American joint committee on cancer staging system.*
APC	*Argon plasma coagulation.*
BE	*Barrett's esophagus*
CA	*Cancer antigen.*
CEA	*Carcinaembryonic antigen.*
CT	*Computed tomography.*
EAC	*Esophageal Adenocarcinoma.*
EMR	*Endoscopic mucosal resection.*
ESCC	*Esophageal Squamous cell carcinoma.*
EUS	*Endoscopic ultrasonography.*
EUS-FNA	*Endoscopic ultrasound guided fine needle aspiration.*
FDG	*Florodeoxyglucose.*
FED-PET	*Florodeoxyglucose- positron emission tomography.*
GERD	*Gastroesophageal reflux disease.*
GIT	*Gastrointestinal tract.*
HGD	*High grade dysplasia.*
HPV	*Human papilloma virus.*
JCOP	*Japan clinical oncology group*
LES	*Lower esophageal sphincter.*
LGD	*Low grade dysplasia.*

L.N	*Lymph node.*
MEC	*Mucoepidermoid carcinoma.*
MIE	*Minimally invasive esophagectomy.*
MPEC	*Multipolar electrocoagulation.*
MRI	*Magnetic resonance imaging.*
NAC	*Neoadjuvant chemotherapy.*
NCCD	*The national comprehensive cancer network*
Nd:YAG	*Neodymium:yttrium-aluminum-garnet.*
PDT	*Photodynamic therapy.*
PET	*Positron emission tomography.*
PLE	*Pharyngo-laryngo-esophagectomy.*
RLN	*Recurrent laryngeal nerve.*
SCC	*Squamous cell carcinoma.*
SEER	*Surveillance, Epidemiology, and End Results.*
SEMS	*Self-expanding metallic stents.*
SIGN	*Scottish intercollegiate guidelines network*
SN	*Sentinel node.*
THE	*Transhiatal esophagectomy.*
TNM	*Tumor node metastases.*
TTE	*Transthoracic esophagectomy.*
UES	*Upper esophageal sphincter.*

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INTRODUCTION

Esophageal cancer is one of the least studied and deadliest cancers worldwide. During the past three decades, important changes have occurred in the epidemiologic patterns associated with this disease. Recent advances in the diagnosis, staging, and treatment of this neoplastic condition have led to small but significant improvements in survival ***(Enzinger el al., 2003).***

Nutritional deficiencies including low level of vit. A, C, riboflavin, mineral elements such as selenium, zinc, molybdenum and high levels of nitrates, nitrites which are converted to N-nitrosamines, alcohol and tobacco use are predisposing conditions, also achalasia, caustic injuries, ptylosis, Plummer-Vinson syndrome, Barrett's metaplasia, gastroesophageal reflux, obesity, H.pylori infection contribute to the pathogenesis of esophageal carcinoma ***(Lin et al ., 2007).***

History of irradiation has been linked to an increased risk of esophagel carcinoma. The first report that linked radiation therapy with cancer of the esophagus appeared in the early 1960s, when several case reports described cases of esophageal cancer after regional radiation treatment for primary cancers of the head, neck, and chest ***(Parker et al., 2003).***

Dysphagia, usually for solids, is the most common presenting feature of esophageal carcinoma. It can progress to dysphagia for liquids and odynophagia. Weight loss inevitably follows and is an adverse prognostic factor. Regurgitation, retrosternal pain, and hoarseness might also occur. Direct invasion of the airway presenting as a tracheoesophageal fistula or invasion into the aorta with fulminant bleeding, although rare, can occur with local progression. Common sites

of metastases include the liver, lung, bone, peritoneum, and nonregional lymph nodes. The brain is an uncommon site for spread ***(Weinberg et al., 2003).***

The physical examination is usually unremarkable. Lymphadenopathy, particularly in the left supraclavicular fossa (Virchow's node), hepatomegaly, and a pleural effusion are all common indicators of metastatic disease. An esophagogram (i.e., a barium-swallow examination) is usually the initial diagnostic study obtained and typically shows a stricture or ulceration of the esophagus. Upper endoscopy reveals a friable, ulcerated mass and biopsy could be taken. A computed tomographic (CT) scan of the chest, abdomen, and pelvis with intravenous contrast medium should be obtained to detect metastatic disease. Patients with esophageal cancer that is thought to be restricted to the esophagus may benefit from further evaluation with the use of endoscopic ultrasonography ***(Van Dam et al., 1997).***

Small and localized tumors are treated surgically with curative intent. Larger tumors tend not to be operable and hence cannot be cured, their growth can still be delayed with chemotherapy, radiotherapy or a combination of both. In some cases chemotherapy and radiotherapy can render these larger tumors operable. Prognosis depends on the extent of the disease and other medical problems, but is fairly poor ***(Enzinger et al., 2003).***

Ong and Lee first described the procedure of pharyngo-laryngo-esophagectomy (PLE) as a one stage, three phase operations which involved cervical, abdominal incisions and a thoracotomy. Tumors involving the hypopharyngeal and upper cervical esophageal region were resected together with the whole esophagus,and the stomach was

delivered via the posterior mediastinum to the neck for pharyngogastric anastomosis ***(Law et al., 2000)***.

The need to sacrifice the larynx does make surgical resection an unattractive and chemoradiation has been used up-front in many series, with surgery reserved for salvage ***(Burmeister et al., 2005)***.

Intrathoracic esophageal cancer, for tumors in the upper thoracic esophagus, obtaining a sufficient proximal resection margin dicates an anastomosis placed in the neck. For this reason resection is best carried out by a three phase esophagectomy or the Mckeown approach ***(Mckeown et al., 2001)***.

For abdominal esophagus and gastric cardia tumors, an abdominal-right thoracic approach as in a Lewis-Tanner esophagectomy is one option, with the proximal stomach also resected in order to gain an adequate distal resection margin. When the proximal stomach is involved by tumor, a total gasterectomy with Roux-en-Y reconstruction is preferred by many ***(Law et al., 2007).***

Esophageal cancer is a devastating disease. Although some patients can be cured, the treatment for esophageal cancer is protracted, decreases quality of life, and is lethal in a significant number of cases. The ideal treatment is debatable. Defendants of surgical treatment argue that resection is the only treatment modality to offer curative intent; whereas defendants of nonsurgical approach claim that esophagectomy has a prohibitive index of mortality and that esophageal cancer is an incurable disease. ***(Park et al., 2011)***

AIM OF THE WORK

This work aims to review the updates in management of oesophageal carcinoma

Anatomy of the esophagus

The esophagus is about 25 cm in length. The most useful reference point is the upper incisors, which are about 15 cm above the pharyngoesophageal junction; if the external nares are included, 2-3 cm must be added. In denning the esophagus, it is adequate to divide it into cervical, thoracic, and abdominal segments ***(Skandalakis et al., 2009).***

The esophagus connects the pharynx to the stomach. Beginning in the neck, at the pharyngoesophageal junction (C5-6 vertebral interspace at the inferior border of the cricoid cartilage), the esophagus descends anteriorly to the vertebral column through the superior and posterior mediastinum. After traversing the diaphragm at the diaphragmatic hiatus (T10 vertebral level) the esophagus extends through the gastroesophageal junction to end at the orifice of the cardia of the stomach (T11 vertebral level) ***(Kuo et al., 2006)***.

Between swallows the esophagus is collapsed but the lumen can distend to approximately 2 cm in the anterior-posterior dimension and up to 3 cm laterally to accommodate a swallowed bolus ***(Long et al., 2002).***

Two high-pressure zones prevent the backflow of food: the upper and lower esophageal sphincter. These functional zones are located at the upper and lower ends of the esophagus but there is not a clear anatomic demarcation of the limits of the sphincters ***(Kuo et al., 2006).***

Upper Esophageal Sphincter

The upper esophageal sphincter (UES) is a high-pressure zone situated between the pharynx and the cervical esophagus). The UES is a musculocartilaginous structure composed of the posterior surface of the