كلية الطب
قسم الجراحة العامة

الحديث فى تشخيص وعلاج سرطان المرئ

رسالة توطئه للحصول على درجة الماجستير
فى الجراحة العامة

مقدمه من

الطبيب/ حمدى البدرى حمدى صديق
بكالوريوس الطب و الجراحة
كلية الطب - جامعه الأزهر

تحت اشراف

الأستاذ الدكتور/ عصام الدين عبد العظيم زايد
أستاذ الجراحه العامه
كلية الطب – جامعة الأزهر

الأستاذ الدكتور/ مدحت محمد رمضان
أستاذ جراحة الأورام
كلية الطب - جامعة الأزهر

الأستاذ الدكتور/ حسن خالد حمدى
استاذ طب الأورام والطب النووى
كلية الطب - جامعة الأزهر

٢٠١٤

Al-Azhar University
Faculty of Medicine
General Surgery department

RECENT ADVANCES IN MANAGMENT OF CANCER ESOPHAGUS

An essay
Submitted for partial fulfilment of
Master Degree in General Surgery

Presented by
Hamdy Elbadry Hamdy Seddik
(M.B.B.ch)

Supervised by

Prof.Dr. Essam El Deen Abd Elazeem Zayed
Professor of general surgery
Faculty of medicine – Al-Azhar University

Prof.Dr. Medhat Mohamed Ramadan
Professor of surgical oncology
Faculty of medicine – Al-Azhar University

Prof.Dr. Hasan Khaled Hamdy
Professor of medical oncology and nuclear medicine
Faculty of medicine – Al-Azhar University

2014


بسم الله الرحمن الرحيم
(قَالُوا سُبْحَانَكَ لَا
عِلْمَ لَنَا إِلَّا مَا
عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْحَكِيمُ)
(البقرة:٣٢)

ACKNOWLEGEMENT

First and foremost, I feel always indebted to ***Allah***, the most kind and the most merciful.

I would also like to express my great thanks and gratitude to

Prof.Dr. Esam El Din Abd Elazim Zaied

Professor of general surgery Faculty of medicine

Al-azhar University

Prof.Dr. Medhat Mohamed Ramadan

Professor of surgical oncology Faculty of medicine

Al-azhar University

Prof.Dr. Hasan Khaled Hamdy

Professor of clinical oncology and nuclear medicine Faculty of medicine Al-azhar University

for their generous help and continuous encouragement. They provided me with invaluable comments, knowledge, experience and hand necessary for achieving this work.

HAMDY EL-BADRY SEDDIK

CONTENT

LIST OF ABBREVIATIONS

2-FL	Two-field lymphadenectomy
3-FL	Three-field lymphadenectomy.
AC	Adenocarcinoma
AJCC	American joint committee on cancer staging system
APC	Argon plasma coagulation.
BE	Barrett's esophagus
BMI	Basal metabolic index
CA	Cancer antigen.
CK	Cytokeratin
CLE	confocal laser endomicroscopy
CR	Complete response
CR-D	complete eradication of dysplasia
CR-IM	complete eradication of all intestinal metaplasia
CT	Computed tomography
DFS	Disease-free survival.
DNA-HPV	Deoxy nucleic acid- Human papilloma virus
EGF-R	Epidermal growth factor receptor.
EMR	Endoscopic mucosal resection.
EUS	Endo-ultrasonography
EUS-FNA	Endoscopic ultrasound guided fine needle aspiration
FDG	Florodeoxyglucose
FED-PET	Florodeoxyglucose- positron emission tomography
FEV1	Forced expiratory volume in 1 second
GERD	Gastroesophageal reflux disease
GY	Gray(unit of absorbed radiation dose).
HGD	High grade dysplasia

HPV	Human papilloma virus
KTP	potassium titanyl phosphate laser.
L.N	Lymph node
LES	Lower esophageal sphincter
LGD	Low grade dysplasia
MPEC	Multipolar electrocoagulation
MRI	Magnetic resonance imaging
NAC	neoadjuvant chemotherapy
NBI	narrow-band imaging
Nd:YAG	Neodymium: yttrium-aluminum-garnet.
NDBE	nondysplastic Barrett's esophagus
NSAIDs	Non-steroidal anti-inflammatory drugs
pCR	complete pathologic response
PDT	Photodynamic therapy
PET	Positron emission tomography
PLE	Pharyngo-laryngo-esophagectomy
PPI	Proton pump inhibitors
RLN	Recurrent laryngeal nerve.
RTOG	Radiation therapy oncology group
SCC	Squamous cell carcinoma
SCC-RA	Squamous cell carcinoma- related antigen.
SES	Socio-economic status
SN	Sentinel node
THE	Transhiatal esophagectomy
TNM	Tumor node metastases.
TTE	Transthoracic esophagectomy
UES	Upper esophageal sphincter
WLE	white light endoscopy

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

Historically, esophageal carcinoma has been well described since the beginning of the 19th century. The first successful resection was performed in 1913 by Frank Torek. **(Torek F. 1913**).

Esophageal cancer is a highly lethal malignancy, with a relative 5-year survival rate of (19%) of patients **(Siegel et al 2012).** It is the eighth most common cancer worldwide and represents the seventh cause of cancer death in the world. **(Jemal, et al., 2007)**

Esophageal cancer occurs most commonly during the sixth and seventh decades of life. **(Jemal, et al., 2007)**.

Esophageal cancer incidence rates overall vary greatly worldwide. Incidence is highest in Asia, southern and eastern Africa, and northern France, with annual mortality near 100 per 100,000. The vast majority of esophageal cancers in these high-risk areas are Squamus Cell Carcinoma *(SCC).* However, in most countries mortality is less than 10 in 100,000. The country with the highest current incidence of mortality from esophageal adenocarcinoma is Great Britain **(Crew, 2004).**

In the United States, The epidemiology of esophageal carcinoma has changed markedly over the past several decades.Until the 1970s, squamous cell carcinoma was the most common type of esophageal cancer (90-95%). *SCC* rates fell by (3.6%) each year between 1998 and 2002; this decrease in incidence is thought to be because of a reduction in smoking. **(Trivers et al, 2008).**

over the last 4 decades, the incidence of adenocarcinoma of the distal esophagus and gastroesophageal junction has increased progressively and accounts for up to 40-50% of cases. **(Parkin et al., 2005).** The incidence rate of adenocarcinoma of the esophagus in the United States showed an average annual increase of 1.7% in men

and 1.9% in women from 1999 to 2008**.** Currently, it accounts for more than 70% of all the new cases of esophageal cancer. **(Siegel et al 2012).**

In contrast to the prevalence of *SCC* in the developing countries. In Britain, age-standardised incidence rates of *AC* have risen by just under 40% every 5 years **(Lepage et al, 2008)**

There are various subtypes, squamous cell carcinoma and adenocarcinoma. Squamous cell cancer arises from the cells that line the upper part of the esophagus while adenocarcinoma arises from glandular cells that are present at the junction of the esophagus and stomach. **(DeMeester and Johnson 2005)**.

It remains difficult to address specific risk factors for the development of esophageal cancer, (Chronic inflammation, epithelial hyperplasia, gastroesophageal reflux disease (GERD), Barrett's esophagus, tobacoo smoking, heavy alcohol use and stasis of food) may contribute to malignant transformation**.** (**Layke, 2006).**

Gastroesophageal reflux disease (GERD) is the most common predisposing factor for adenocarcinoma of the esophagus,it is estimated that (½ to 1%) of patients with Barrett's esophagus develop adenocarcinoma each year,the interval between the onset of symptoms of achalasia (which is precancerous) and the development of cancer is approximately (15 – 20) years. (**Layke, 2006).**

A genome-wide association study by Wu et al identified 5 susceptibility loci on chromosomes 5q11, 6q21, 10q23, 12q24, and 21q22. The findings suggest the involvement of multiple genetic loci and gene-environment interaction in the development of esophageal cancer. (**Wu C, et al.2011**)

In over (85%) of patients with esophageal cancer, the presenting symptom is dysphagia, which is initially for solids and later on progress to liquids,other common symptoms are (weight loss, cough, and regurgitation) with associated symptoms, which reveal tumor infiltration such as (pain, hoarseness of voice and respiratory symptoms). (**Layke, 2006).**

The tumors disseminate by direct invasion into surrounding mediastinal structures, through blood stream by local vascular involvement and by lymphatic dissemination. **(Wallace, et al., 2002)**.

The goals of investigating patint with esophageal cancer is to establish the diagnosis and to stage the cancer. Laboratory studies must be focused on the evaluation of nutritional status due to dysphagia and liver function in alcoholic patients.Several means are used to help in clinical staging which include (esophagoscopy, barium swallow, computed tomography (CT) and fine needle aspiration biopsy). (**Layke, 2006).**

AIM OF THE WORK

This essay aims to study the recent trends in the diagnosis and treatment of the esophageal cancer.

SURGICAL ANATOMY OF THE ESOPHAGUS

Introduction:

The esophagus is a 25-cm long muscular tube that connects the pharynx to the stomach**. (Postma GN, et al 2009).**

The most useful reference point is the upper incisors, which are about 15 cm above the pharyngoesophageal junction ***(Kuo and Urma, 2006)***.

The esophagus extends from the lower border of the cricoid cartilage (at the level of the sixth cervical vertebra) to the cardiac orifice of the stomach at the side of the body of the 11th thoracic vertebra. **(Postma GN, et al 2009).**

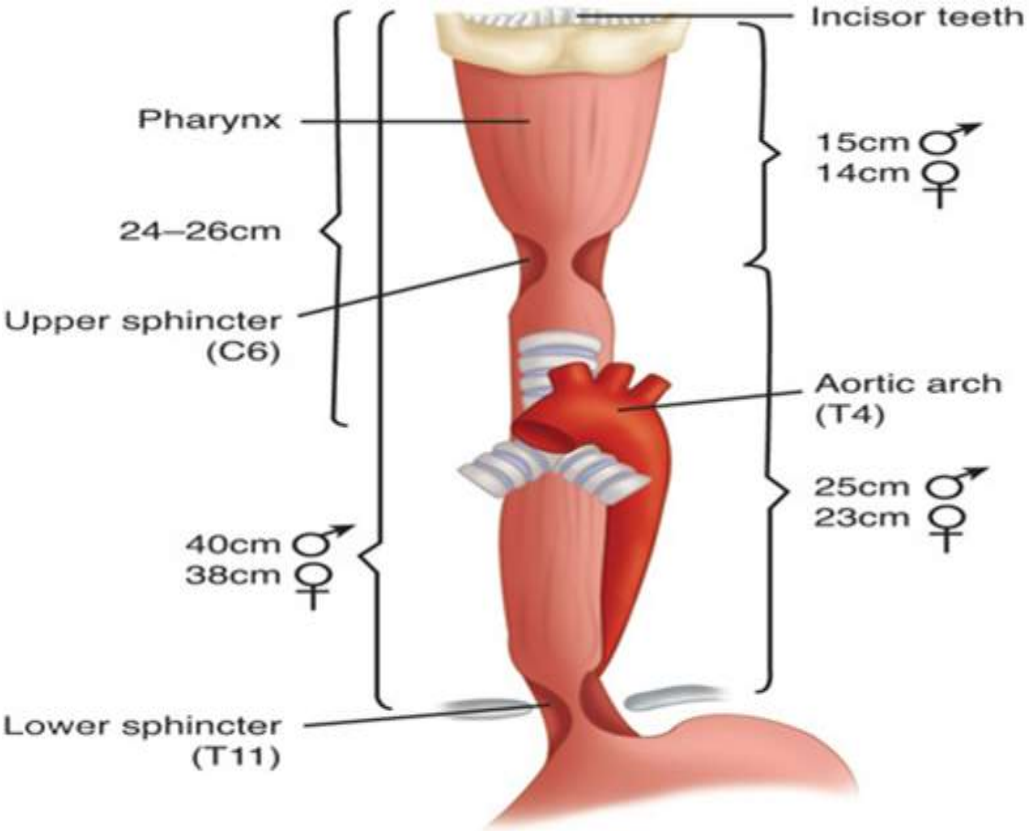

Figure (1): Gross anatomy of the esophagus **(Kuo and Urma, 2006)**.