Pathology Registry of Primary Malignant Tumors of the Esophagus

Thesis

Submitted for partial fulfillment of the master degree of ***In Pathology***

By:

Shahinaz Ahmed Saad El-din
(M. B., B.Ch)
Faculty of Medicine- Ain Shams University

Supervised by

Prof Dr. Zeinab Abd El-Rahamn Kotb
Professor of Pathology
Faculty of Medicine, Ain Shams University

Prof. Dr. Gamal Mohamed Fathy
Professor of Pathology
Faculty of Medicine, Ain Shams University

Dr. Wesam Mohamed Osman
Assistant Professor of Pathology
Faculty of Medicine, Ain shams University

Faculty of Medicine
Ain Shams University
2015

سورة البقرة الآية: ٣٢

Acknowledgement

First of all, all gratitude is due to ***God*** *almighty for blessing this work, until it has reached its end, as a part of his generous help, throughout my life.*

Really I can hardly find the words to express my gratitude to ***Prof. Dr. Zeinab Abd El-Rahamn Kotb*** *Professor of Pathology, Faculty of Medicine, Ain Shams University, for her supervision, continuous help, encouragement throughout this work and tremendous effort she has done in the meticulous revision of the whole work. It is a great honor to work under her guidance and supervision.*

I would like also to express my sincere appreciation and gratitude to ***Prof. Dr. Gamal Mohamed Fathy*** *Professor of Pathology, Faculty of Medicine, Ain Shams University, for his continuous directions and support throughout the whole work.*

I owe much to. ***Dr. Wesam Mohamed Osman,*** *Assistant Professor of Pathology Faculty of Medicine, Ain Shams University for her continuous guidance, encouragement during the progress of this work and direct supervision.*

Last but not least, I dedicate this work to my family, whom without their sincere emotional support, pushing me forward this work would not have ever been completed.

Shahinaz Ahmed Saad El-din

Contents

List of Abbreviations

APC	:	Adenomatosis polyposis coli.
AJCC	:	American joint committee of cancer.
BE	:	Barrett's esophagus.
BMI	:	Body mass index.
CCL	:	Centrocyte-like.
CI	:	Confidence interval.
CRT	:	Chemoradiotherapy.
CRT-S	:	Chemorediotherapy followed by surgery.
C-S	:	Chemotherapy followed by surgery.
CT	:	Computerized tomography.
DLC 1	:	Deleted in lung esophageal cancer 1.
EAC	:	Esophageal adenocarcinoma.
EGFR	:	Epiderms growth factor receptor.
EMR	:	Endoscopic mucosal resection.
ESCC	:	Esophageal squamous cell carcinoma.
ESD	:	Endoscopic submucosal dissection.
EUS	:	Endoscopic ultrasound.
FDG-PET	:	18-fluoro-deoxyglucose positron emission tomography.
FHIT	:	Fragile histidine traid.
GERD	:	Gastroesophageal reflux disease.
GISTs	:	Gastrointestinal stromal tumors.
H2RLN	:	Serum human relaxin 2.

List of Abbreviations (Cont.)

HGD	:	High grade dysplasia.
HGIN	:	High grade intraepithelial neoplasia.
LES	:	Lower esophageal sphincter.
LSBE	:	Lower segment barrett's esophagus.
LOH	:	Loss of heterozygotity.
MALT	:	Mucosa associated lymphoid tissue.
MECC	:	Middle east cancer consortium.
mRNA	:	Messenger Ribonucleic acid.
NEPPK	:	Non epidermiolytic palmoplantar keratoderma.
Ors	:	Odds ratios.
PCNA	:	proliferating cell nuclear antigen.
PLA2	:	Phospholipase A2.
RFA	:	Radiofrequency ablation.
RR	:	Relative risk.
RT-PCR	:	Reverse transcript polymerase chain reaction .
SCC	:	Squamous Cell Carcinoma.
SEER	:	Surveillance epidemiology end result.
S-CRT	:	Surgery with adjuvant chemorediotherapy.
SD	:	Standard deviation.
SPSS	:	Statistical package for social science.
UES	:	Upper esophageal sphincter.
WHO	:	World health organization

List of Tables

List of Tables (Cont.)

List of Figures

List of Figures (Cont.)

List of Figures (Cont.)

List of Figures (Cont.)

List of Figures (Cont.)

List of Diagram

Introduction

Esophageal cancer is diagnosed in about 400,000 patients per year, which makes it the ninth most common malignancy worldwide and sixth on the list of cancer mortality causes ***(Peter and Siersema 2008).***

According to the National Cancer Institute, in the United States there were be approximately 17990 new cases and 15210 deaths in 2013. Despite many advances in diagnosis and treatment, the 5-year survival rate for all patients diagnosed with esophageal cancer ranges from 15% to 20% ***(Pennathur A et al., 2013).***

The epidemiology of esophageal cancer in developed nations has dramatically changed over the past forty years. Forty years ago squamous cell carcinoma (SCC) was responsible for greater than 90% of the cases of esophageal carcinoma in the United States. Adenocarcinoma has now become the leading cause of esophageal cancer in the United States, representing 80% of cases. In 1975 esophageal adenocarcinoma (EAC) affected four people per million, in 2001 the rate had increased to twenty-three people per million. Making it the fastest-growing cancer in United States, according to the National Cancer Institute ***(Kyle J Napier et al., 2014).***

Esophageal squamous cell carcinoma (ESCC) is defined as a tumor in the squamous epithelium that lines the normal esophagus. Adenocarcinomas are tumors that are located at the interface of the distal esophagus and proximal stomach .The prognosis of esophageal cancer has slightly improved over the last few years in patients eligible to undergo a surgical resection; however, the 5-year survival rate in the resected group is still not higher than 30% to 35% ***(Omloo JM et al, 2007, Chang AC et al., 2008).***