شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

HANAA ALY

FDG-PET/CT as a predictive tool for the evaluation of the aggressiveness of rectal cancer

Thesis

Submitted for Partial Fulfillment of Doctorate Degree in Radiodiagnosis

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Iman Sherif

List of Contents

List of Abbreviations

Abb.	Full term
18F FDG-PET/CT.	[18F] fuorodeoxyglucose positron emission tomography/computed tomography
AJCC	American Joint Committee on Cancer
BAT	Brown adipose tissue
BMI	Body mass index
CEA	Carcinoembryonic antigen level
CRCs	Colorectal cancers
CRM	Circumferential resection margin
CTV	Clinical target volume
EANM	European association of nuclear medicine
EMV	Extramural venous invasion
FAP	Familial adenomatous polyposis
GISTs	Gastrointestinal stromal tumors
GTV	Gross tumour volume
IARC	International Agency for Research on Cancer
IMV	Inferior mesenteric vein
MAC	Mucinous adenocarcinomas
MIP	Maximum-intensity-projection
MRF	Mesorectal fascia
MTV	Mean tumor volume
NACT-RT	Neoadjuvant chemotherapy and/radiotherapy
NCI	The national cancer institute
NHL	Non-Hodgkin's lymphoma
NMAC	Non-mucinous adenocarcinoma
OARs	Organs at risks
OS	Overall survival
RI	Retention index
ROI	Region of interest
SRCC	Signet ring cell carcinoma
SUV	Standardized uptake value
TLG	Total lesion glycolysis
TME	Total mesorectal excision
TRG	Tumor regression grade
UICC	Union International Center Cancer

List of Tables

List of Figures

List of Figures Cont...

List of Figures Cont...

List of Figures Cont...

List of Figures Cont...

INTRODUCTION

Colorectal cancer (CRC) is the third commonest cancer worldwide with nearly 1.4 million new cases diagnosed annually ***(Chiu et al., 2018).***

Colonoscopy is considered the most effective tool for the diagnosis of CRC because it can be used to localize and biopsy lesions throughout the large intestine, detect synchronous neoplasms, and remove polyps simultaneously. The most widely accepted staging system of CRC remains the TNM staging system proposed by the American Joint Committee on Cancer, which was updated in 2010 ***(Agarwal et al., 2014).***

Determination of tumour type is critical because different tumour types vary regarding the radio-sensitivity, local behavior, and propensity for regional and systemic metastasis. The histological grade of tumours is an important indicator of the potential for local invasion or systemic metastases. Tumour staging as determined by clinical evaluation, imaging studies and histological evaluation are necessary to establish the extent of the tumour, both locally and systemically ***(Nabi et al., 2010).***

Microscopically 98% of all CRC are adenocarcinoma. The major subtypes are non-mucinous adenocarcinomas, mucinous or colloid adenocarcinoma and signet ring cell carcinoma. Adenocarcinomas of colon and rectum are graded predominantly on the basis of the extent of glandular