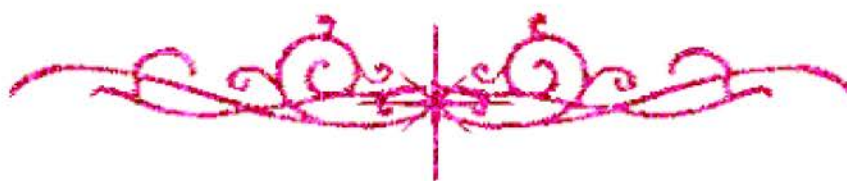


سامية محمد مصطفى



شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



سامية محمد مصطفى



شبكة المعلومات الجامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



سامية محمد مصطفى



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

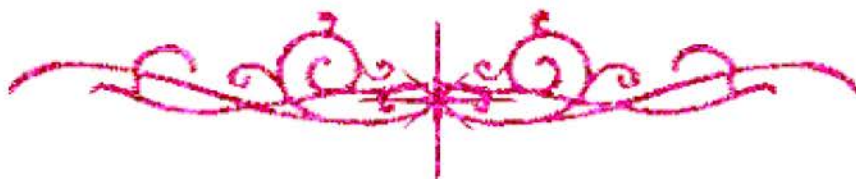
قسم

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



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



سامية محمد مصطفى



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



سامية محمد مصطفى



شبكة المعلومات الجامعية



بالرسالة صفحات لم ترد بالأصل



**PREOPERATIVE DIAGNOSIS OF
OROFACIAL
SOFT TISSUE NEOPLASMS USING MRI
(COMPARATIVE STUDY)**

Thesis

*Submitted to Oral Surgery Department,
Faculty of Oral and Dental Medicine,
Cairo University in Partial Fulfillment
for the Requirements of Master's
Degree in Oral Surgery*

By

رانيا احمد محمد



RANIA AHMED MOHAMED

B.D.S (Cairo uni)

2004

B

13701

Handwritten signatures and marks at the bottom of the page.

Supervisors

DR. SAMIR A. KANDIL

Professor of Oral Surgery

Faculty of Oral and Dental Medicine

Cairo University

DR. MAHA H. HELAL

Professor of Radio Diagnosis

National Cancer Institute

Cairo University

DR. BASMA G. Moussa

Lecture of Oral Surgery

Faculty of Oral and Dental Medicine

Cairo University

A handwritten signature in black ink, appearing to be 'Basma G. Moussa', written over a horizontal line.

Acknowledgement

First of all I want to say that I am always and forever indebted to **GOD** for his generosity prevails my life and his guidance which enabled me to accomplish this work.

It is great honor to express my thanks and sincere gratitude to **Dr. Samir A. kandil** , Professor of Oral Surgery, Faculty of Oral and Dental Medicine, Cairo University, for his guidance, valuable facilities, advises, and unlimited time offered to me during this work.

I would like to express my deep respect and gratitude to **Dr. Maha H. Helal**, Professor of Radio-Diagnosis, National Cancer Institute, Cairo University, for her cooperation, great effort and help in accomplishment of this work.

I am very grateful to **Dr. Basma G. Moussa**, Assistance professor of Oral Surgery, Faculty of Oral and Dental Medicine,

Cairo University, for great support, continuous help, effort, guidance and enthusiastic stimulation through this work.

I express my plentiful thanks to my mother, father, and sister, for their great assistance and encouragement in completing this work.

Finally, I would like to thank all members of Oral Surgery Department, Faculty Of Oral and Dental Medicine, Cairo University as well as all medical staff in National Cancer Institute, Cairo University for continuous encouragement during the whole work.

CONTENTS

	Page
INTRODUCTION.....	1
REVIEW OF LITERATURE.....	3
History of MRI.....	3
Principles Of MRI.....	4
Anatomy of the oral cavity and surrounding structure.....	5
Lymph drainage of oropharynx, oral cavity and floor of mouth.....	8
MRI anatomy of oral cavity and upper oropharynx.....	9
Axial section anatomy.....	9
Coronal section anatomy.....	13
Sagittal section anatomy.....	17
Contrast media.....	19
Contrindication and safety guide lines to MRI.....	20
Soft tissue extent.....	21
MR imaging of orofacial tumors.....	22
MRI findings and differential diagnosis of some tumors.....	29
Histopathological features of some tumors.....	39
AIM OF THE STUDY.....	47
PATIENTS AND METHODS.....	48

RESULT.....	60
DISCUSSION.....	96
SUMMARY AND CONCLUSION.....	105
REFERENCES.....	108
ARABIC SUMMARY.....	

LIST OF ABBREVIATIONS

MRI:	Magnetic resonance image.
T1:	Time constant of exponential growth of magnetization.
T2:	Time constant of exponential decay of signal after an excitation pulse.
T2* :	Similar to T2.
TR:	Repetition time.
TE:	Echo time.
Gd-DTPA:	Gadolinium chelates.
NEX:	Number of excitations.
FOV:	Field of view.
SNR:	signal to noise ratio.
FSE :	Fast-spin echo.
GRE :	Gradient-recalled echo.
RF:	Radio frequency.
N (H):	Number of resonating protons per unit volume.
CT:	Computed tomography.
SCC:	Squamous cell carcinoma.
ACC:	Adenoid cystic carcinoma.

LIST OF TABLES

<u>Table</u>	<u>Page</u>
<i>Table (I):</i> TNM Staging classification of head and neck tumors.	46
<i>Table (II):</i> Clinical data of the cases. (Age, sex, site, shape, color, and surface texture).	69
<i>Table (III):</i> Clinical data of all cases. (Palpation, duration, onset, pain, and lymphatic involvement).	70
<i>Table(IV):</i> TNM classification of malignant cases.	71
<i>Table (V):</i> Comparison between size of the tumors clinically and Its size in MRI.	73
<i>Table (VI):</i> Comparison between site of the tumors & its extension clinically and in MRI.	78
<i>Table (VII)A:</i> Comparison between histopathology, border in T1 and T2 and accuracy of MRI in differentiation of tumors.	79
<i>Table (VII)B:</i> Comparison between histopathology, border in T1 and T2 and accuracy of MRI in differentiation of tumors.	80
<i>Table (VIII):</i> Comparison between intensity of benign and malignant neoplasms with histopathology in T1-weighted image and T2-weighted image.	96

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
Fig. (1): Axial schematic view through floor of the mouth.	11
Fig. (2): T1-weighted axial MRI image of normal oral cavity musculature.	12
Fig. (3): Coronal schematic view of oral cavity.	16
Fig. (4): Sagittal MRI view of oral cavity showing muscles of the tongue.	18
Fig. (5): Photograph showing a case of benign lymphoepithelial tumor in left submandibular salivary gland.	
Fig. (6): MRI machine with its content.	
Fig. (7): Patient position on MRI machine.	53
Fig. (8): T1 weighted axial MRI image in submandibular Salivary glands.	53
Fig. (9): T1 weighted coronal MRI image in submandibular salivary glands.	54
Fig. (10): T1 weighted sagittal MRI image in left submandibular salivary gland.	54
Fig. (11): Photograph showing preoperative hemangioma of gingival and labial region.	58

Fig.(12): Photograph showing hemangioma of lingual area preoperatively.	59
Fig. (13): Photograph showing primary healing of lingual hemangioma (postoperative).	59
Fig. (14): Photograph showing preoperative hemangioma of right cheek.	62
Fig. (15): Photograph showing postoperative hemangioma of right cheek.	62
Fig. (16): Photograph showing a case of SCC in left side of the tongue.	63
Fig. (17): Photograph showing a case of SCC in right side of the tongue.	63
Fig. (18): Photograph showing SCC in the ventral surface of tongue and floor of the mouth in right side.	64
Fig. (19): T1 weighted axial MRI image of hemangioma in left labial region.	74
Fig. (20): T2 weighted axial MRI image of hemangioma in right and left lingual area and left parotid gland.	74
Fig. (21): T2 weighted coronal MRI image of hemangioma in left buccal, labial region and right labial region.	75
Fig. (22): T2 weighted axial MRI image of hemangioma in left masseter muscle.	75