

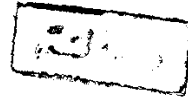
Doc

**THE ROLE OF CT IN
DIAGNOSING LESIONS INVOLVING
THE THORACIC INLET**

THESIS

**Submitted in partial fulfillment
for the M.D. Degree of Radiodiagnosis**

BY



616.0757
N.F

Nivene Fawaz Hanna
M.B., B.Ch., M.Sc. Radiodiagnosis

UNDER THE SUPERVISION OF

Prof. Dr. Salwa T. Ahmed Ismail

*Professor of Radiodiagnosis,
Faculty of Medicine,
Ain Shams University*

**Faculty of Medicine
Ain Shams University
1997**



صفحه جاری

الاعضاء المذكورة / السيد عبد الحليم مبروك

اعضاء اللجنة الشعبية

كاتب المقامه

صفحه داخلية

الاعضاء المذكورة / السيد هادي مكي لبيب

اعضاء اللجنة الشعبية

كاتب المقامه

صفحه خارجية

الاعضاء المذكورة / السيد هادي مكي لبيب

اعضاء اللجنة الشعبية

كاتب المقامه



ACKNOWLEDGMENT

I would like to express my sincere gratitude to Prof. Dr. Salwa Taha, Professor of Radiology, Ain Shams University for her valuable help, constant support, generous participation and continuous encouragement all through this work.

Also, I am greatly indebted to my colleagues who helped me greatly through this work.

I would also like to thank all the members of my family for their continuous encouragement and support.

CONTENTS

	<u>PAGE</u>
- Introduction and Aim of the Work.	1
- Anatomy of the Thoracic Inlet.	2
- Pathology and Clinical Features of Thoracic Inlet Lesions.	41
- Material and Methods.	79
- Results.	82
- Illustrative Cases.	89
- Discussion.	145
- Summary and Conclusion.	168
- References.	171
- Arabic Summary.	

LIST OF FIGURES

		PAGE
Fig. 1	Bony boundaries of the thoracic inlet.	3
Fig. 2	CT of a normal thoracic inlet.	5
Fig. 3	Anatomic illustration of structures at the thoracic inlet.	5
Fig. 4	scalenus medius muscle.	8
Fig. 5	Scalenus posterior muscle.	8
Fig. 6	The prevertebral region and root of neck.	9
Fig. 7	The thyroid gland with its posterior relations and vascular supply.	12
Fig. 8	Postcontrast appearance of the thyroid gland.	14
Fig. 9	The thymus with its two flask-shaped lobes.	17
Fig. 10	CT of the thymus at 15 years of age.	17
Fig. 11	CT of the thymus at 28 years of age.	19
Fig. 12	CT of an involuted thymus at 40 years of age.	19
Fig. 13	Normal thymic measurements.	20
Fig. 14	Anterior aspect of the neck to demonstrate tracheal relationships.	24
Fig. 15	The horseshoe-shaped trachea in the midline of thoracic inlet.	26

		<u>PAGE</u>
Fig. 16	The thoracic duct.	29
Fig. 17	The brachiocephalic trunk and its branches.	31
Fig. 18	Branches of the aortic arch with the great veins at thoracic inlet.	33
Fig. 19	Great veins anterior to great arteries at superior mediastinum.	36
Fig. 20	Retro-oesophageal right subclavian artery.	40
Fig. 21	Double aortic arch and a right sided arch with an aberrant left subclavian artery.	40
Fig. 22 (A,B,C,D)	Multinodular goitre with substernal extension.	90
Fig. 23 (A,B,C,D,E)	Goitre with substernal extension.	92 , 93
Fig. 24 (A,B,C)	Left thyroid lobe enlargement proved malignant.	95
Fig. 25 (A,B,C)	Multinodular goitre with substernal extension and a high possibility of malignancy.	97
Fig. 26 (A,B,C)	Hodgkin's disease, stage II B.	99
Fig. 27 (A,B,C)	Hodgkin's disease, stage II B.	101
Fig. 28 (A,B,C,D,E)	Non-Hodgkin's lymphoma with follow up chest x-ray.	103 , 104
Fig. 29 (A,B,C,D)	Non-Hodgkin's lymphoma with pulmo-nary and pleural involvement.	106

	PAGE
Fig. 30 (A,B,C,D,E) Non-Hodgkin's lymphoma with pleural and hepatic involvement.	108 , 109
Fig. 31 (A,B,C) Thymic hyperplasia.	111
Fig. 32 (A,B,C,D) Thymoma.	113
Fig. 33 (A,B,C) Bilateral old pulmonary TB.	115
Fig. 34 (A,B,C,D,E) Superior sulcus tumor stage IV.	117
Fig. 35 (A,B,C,D) Pleural deposits.	119
Fig. 36 (A,B,C,D) Mesothelioma.	121
Fig. 37 (A,B,C,D) Right aortic arch.	123
Fig. 38 (A,B,C) Ectatic right innominate vein.	125
Fig. 39 (A,B,C,D) Thrombosed right IJV and innominate vein.	127
Fig. 40 (A,B,C,D) Aortic and left subclavian aneurysm.	129
Fig. 41 (A,B,C) Oesophageal diverticulum.	131
Fig. 42 (A,B,C) Oesophageal carcinoma stage III.	133
Fig. 43 (A,B,C) Tracheal metastasis.	135
Fig. 44 (A,B,C,D,E) Bony and pulmonary deposits.	137 , 138
Fig. 45 (A,B,C) Thyroid carcinoma and mediastinal lipomatosis.	140
Fig. 46 (A,B,C) Neurofibrosarcoma.	142
Fig. 47 (A,B,C) Infected post traumatic hematoma.	144

LIST OF TABLES

	PAGE
Table (1) CT findings in lymphoma patients with extranodal involvement.	83
Table (2) CT findings in 11 patients with substernal extension of goitre.	84
Table (3) CT findings in 7 patients with Pancoast tumor.	84
Table (4) CT picture of lesions involving the pleural domes.	85
Table (5) Methods used to reach a pathologic diagnosis.	86
Table (6) Correlation between CT and pathologic diagnosis in the 65 patients.	87, 88

ERRATA

Page	Error	Correction
6	cartiages	cartilages
11	larygeal	laryngeal
83 (<i>Table "1"</i>)	1.53%	5.88%
	1.53%	5.88%
	3.07%	11.76%
	1.53%	5.88%
	1.53%	5.88%
84 (<i>Table "2"</i>)	11 patients	14 patients
	18.4%	85.7%
	12.3%	57.1%
	9.2%	42.85%
84 (<i>Table "3"</i>)	4.6%	42.85%
	6.1%	57.14%
	4.6%	42.85%
	3.07%	28.57%
	1.53%	14.28%
91	accosional	occasional
143	hypoense	hypodense
155	case number 22	case number 8
157	pleural mass on the left	pleural mass on the right
157	julgar	jugular
165	examinaiton	examination

