

Acknowledgment

First of all I thank Allah for helping me to accomplish this research and for providing me with such very encouraging and supportive supervisors.

I wish to express my deepest gratitude **Prof. Dr. Hoda Mohamed Aboul Fotoh Hassab**, Professor of Pediatrics, Faculty of Medicine, Alexandria University, who suggested this topic and supervised this work. I appreciate her close enthusiastic co-operation and advise as well as her generous efforts in the evaluation of this work.

I would like to express my greatest gratitude to **Prof. Dr. Nahla Mohamed Gamal Farahat**, Professor of Clinical and Chemical Pathology, Faculty of Medicine, Alexandria University, for her valuable advice, fruitful suggestions and continuous encouragement as well as her generous efforts in the evaluation of this work.

I would like to express my deep appreciation to **Prof. Dr. Amina Amal Mohamed Nour Eldin**, Professor of Medical Microbiology and Immunology, Faculty Medicine, Alexandria University, for her continuous help, valuable advise and support.

My thanks and appreciation go to **Dr. Mohamed Mahmoud Elshafei**, Lecturer in Radiodiagnosis, Faculty of Medicine, Alexandria University, for his continuous encouragement and his close observation which has enlighten many points at every stage of this study.

Last, but not least, I want to express my cordial feelings towards my parents specially to the soul of my Dad, to my mum, my husband and my lovely kids (Nour and Yehia) who saved no effort in supporting me throughout the way.

LIST OF CONTENTS

Chapter	Page
ACKNOWLEDGMENT	i
LIST OF CONTENTS.....	ii
LIST OF TABLES	iii
LIST OF FIGURES.....	iv
LIST OF ABBREVIATIONS	vi
I. INTRODUCTION.....	1
II. AIM OF THE WORK	16
III. SUBJECTS	17
IV. METHODS.....	18
V. RESULTS	20
VI. DISCUSSION	50
VII. SUMMARY	59
VIII. CONCLUSIONS	61
IX. RECOMMENDATIONS.....	62
X. REFERENCES.....	63
APPENDIX	
PROTOCOL	
ARABIC SUMMARY	

LIST OF TABLES

Table		Page
(1)	Generalized lymphadenopathy cause in paediatric	6
(2)	Features prompting a possible biopsy	12
(3)	Demographic characteristics of the studied patients with lymphadenopathy	22
(4)	Present medical history of the studied patients with lymphadenopathy	23
(5)	History of exposures before occurrence of lymphadenopathy among the studied patients	24
(6)	Past history of the studied patients with lymphadenopathy	24
(7)	Clinical findings among the studied patients with lymphadenopathy	25
(8)	Physical examination among the studied patients with lymphadenopathy	25
(9)	Lymph nodes characteristics among the studied patients with lymphadenopathy	26
(10)	Hematologic parameters among the studied patients with lymphadenopathy	27
(11)	Results of laboratory investigations among the studied patients with lymphadenopathy	28
(12)	Results of biopsy and radiologic investigations among the studied patients with lymphadenopathy	29
	a) Final diagnosis among the studied patients with lymphadenopathy	30
(13)	b) Diagnostic categories among the studied patients with lymphadenopathy (n=170)	32
(14)	Demographic characteristics among the studied patients with lymphadenopathy according to the etiology	33
(15)	Present medical history among the studied patients with lymphadenopathy according to the etiology	34
(16)	Past history among the studied patients with lymphadenopathy according to the etiology	36
(17)	Characteristics of LN among the studied patients with lymphadenopathy according to the etiology	38
(18)	Results of investigations among the studied patients with lymphadenopathy according to the etiology	43
(19)	Results of radiologic investigations among the studied patients with lymphadenopathy according to the etiology	47

LIST OF FIGURES

Figure		Page
(1)	Structure of a Lymph Node	1
(2)	Lymph node, rabbit - H&E	2
(3)	Distribution of macrophages in lymph nodes. (H&E, carbon injected)	2
(4)	Lymph nodes (glands) of the head	3
(5)	Final diagnosis of the 170 studied cases	30
(6)	Medical history of the studied patients with lymphadenopathy according to the Mode of onset	35
(7)	Medical history of the studied patients with lymphadenopathy according to the duration of lymphadenopathy	35
(8)	Past history of the studied patients with lymphadenopathy according to the drug history	36
(9)	Characteristics of LNs as regards multiplicity among the studied patients with lymphadenopathy	39
(10)	Characteristics of lymph nodes as regards distribution among the studied patients with lymphadenopathy	39
(11)	Characteristics of the lymph nodes as regards size (of largest LN) among the studied patients with lymphadenopathy	40
(12)	Characteristics of the LNs as regards character among the studied patients with lymphadenopathy	40
(13)	Characteristics of the studied LNs as regards consistency among the studied patients with lymphadenopathy	41
(14)	Characteristics of the LNs as regards tenderness among the studied patients with lymphadenopathy	41
(15)	Characteristics of the LNs as regards fixation among the studied patients with lymphadenopathy	42
(16)	Characteristics of the LNs as regards skin changes among the studied patients with lymphadenopathy	42
(17)	Comparison between the three studied groups as regards anemia	44
(18)	Comparison between the three studied groups as regards the lymphocyte count	44
(19)	Comparison between the three studied groups as regards the platelet count	45
(20)	Comparison between the three studied groups as regards ESR results	45
(21)	Comparison between the three studied groups as regards CRP results	46
(22)	Comparison between the three studied groups as regards LDH results	46

Figure		Page
(23)	Comparison between the three studied groups as regards the presence or absence of lymph nodes in the abdominal US of the patients	48
(24)	Comparison between the three studied groups as regards presence or absence of hepatomegaly in the US abdomen of the patients	48
(25)	Comparison between the three studied groups as regards presence or absence of splenomegaly in the US abdomen of the patients	49

LIST OF ABBREVIATIONS

AIDS	: Acquired immunodeficiency syndrome
ALL	: Acute lymphoblastic leukemia
AML	: Acute myeloblastic leukemia
B. henselae	: Bartonella henselae
CBC	: Complete blood count
CMV	: Cytomegalovirus
CT	: Computerized tomography
CXR	: Chest x ray
EBV	: Epstein–Barr virus
ECHO	: Echocardiogram
ECG	: Electrocardiogram
ESR	: Erythrocyte sedimentation rate
FNA	: Fine-needle aspiration
FNAC	: Fine needle aspiration cytology
H&E	: Hematoxylin and eosin stain
HHV	: Human herpes virus
HIV	: The human immunodeficiency virus
HL	: Hodgkin lymphoma
HSV	: Herpes simplex virus
LAP	: Lymphadenopathy
LDH	: Lactate dehydrogenase
LN	: Lymph node
LNs	: Lymph nodes
MHC	: Major histocompatibility complex
MRI	: Magnetic resonance imaging
NHL	: Non Hodgkin lymphoma
PPD	: Purified protein derivative
PT	: Prothrombin time
PTGC	: Progressive transformation of germinal centers
PTT	: Partial thromboplastin time
S.aureus	: Staphylococcus aureus

S.pyogenes : Streptococcus pyogene
SVC : Superior vena cava
sIL-2r : Plasma soluble interleukin-2 receptor
SLE : Systemic lupus erythematosus
TB : Tuberculosis
URTI : Upper respiratory tract infection
US : Ultrasound
VMA : Valinyl mandelic acid