بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

Radiculomyelopathy Involvement in Ankylosing Spondylitis

THESIS

Submitted in partial fulfillment of the requirements for the Master degree in Rheumatology and Rehabilitation

By

DINA HATEM EL-HAMMADY
(M.B.,B.Ch.Assiut University)

SUPERVISORS

PROF. FATMA EL-ZAHRAA M. ABD-ALLA

Professor of Rheumatology and Rehabilitation
Faculty of Medicine
Assiut University.

DR. EMAN M. H. KHEDR

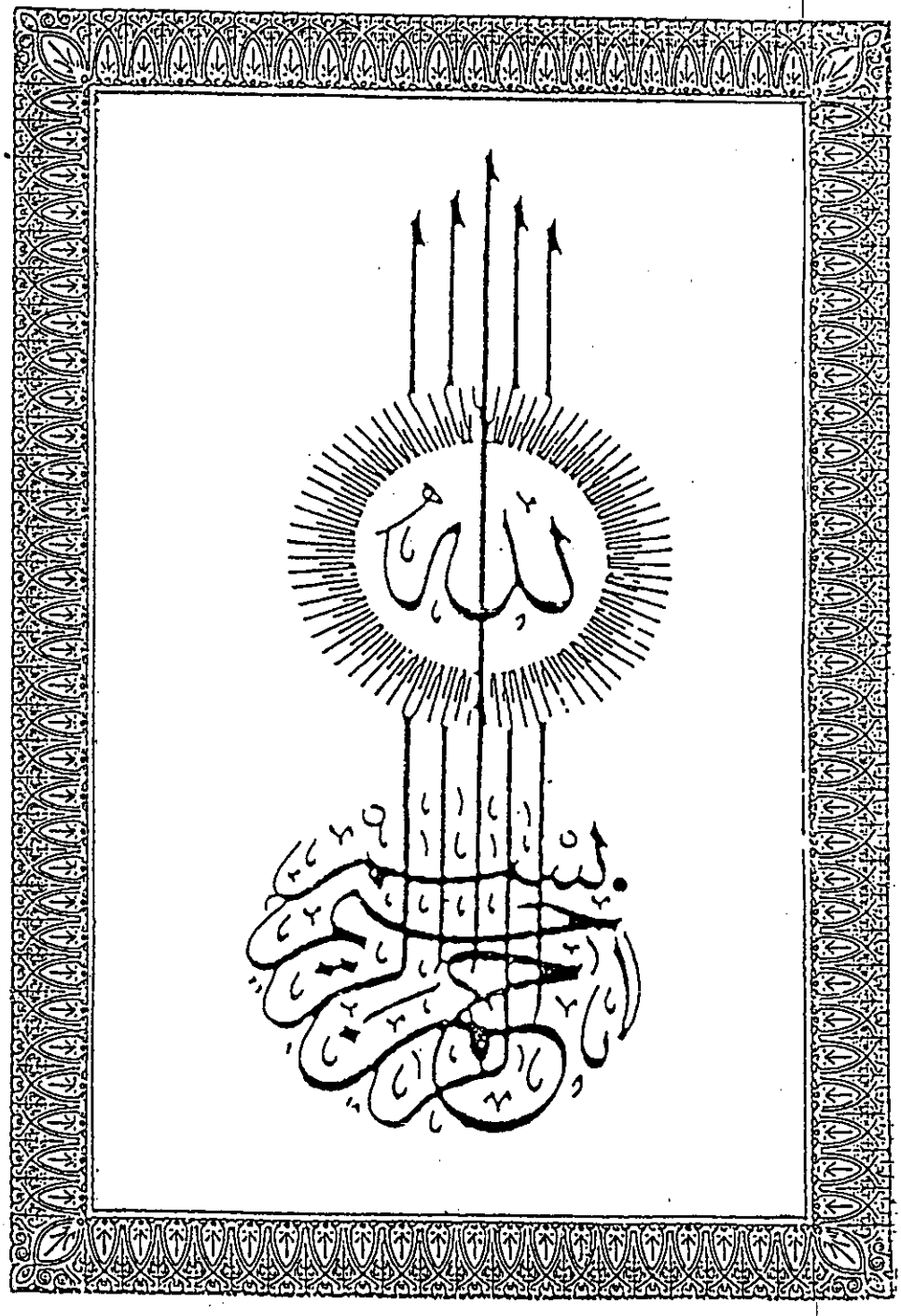
Assistant Professor of Neurology
Faculty of Medicine
Assiut University.

DR. SONIA M. RASHAD

Lecturer of Rheumatology and Rehabilitation
Faculty of Medicine Assiut University.

2001

B1.٢٢٦



Acknowledgements

I wish to express my sincere thanks and gratitude to ***Professor Fatma El-Zahraa M. Abdoullah*** Professor. of Rheumatology and Rehabilitation, Faculty of Medicine, Assiut University for her valuable guidance, very keen and instructive supervision.

I am deeply grateful to ***Dr. Eman M. H. Khedr*** Assistant Professor of Neurology, Faculty of Medicine Assiut University, for her sympathetic help, kind attitude, and fruitful discussion throughout the course of this work.

I would like to express my gratitude and appreciation to ***Dr. Sonia M. Rashad,*** Lecturer of Rheumatology and Rehabilitation, Faculty of Medicine Assiut University, for her valuable guidance, instructive supervision and support during the whole study.

I would like to express my grateful thanks to all my ***Professors***, ***teachers, staff*** and ***all my colleagues*** of the Department of Rheumatology and Rehabilitation, and Department of Neurology, Faculty of Medicine, Assiut University, for their useful help and advice.

I would like to extend my thanks to the patients involved in this study, I share the widespread hopes and enthusiasm that effective prognosis and treatment to improve outcome of AS patients could be approached in the near future. Finally, All my thanks to my family and specially to my little daughter Nour

Dina H. El-Hammady

2001

List of abbreviations

1. **AAS** = Atlanto-Axial Subluxation
2. **AIMS** = Arthritis Impact Measurement Scales
3. **ALP** = Alkaline Phosphatase
4. **ALT** = Alanine aminotransferase
5. **AS** = Ankylosing Spondylitis
6. **AST** = Aspartate aminotransferase
7. **BASDAI** = Bath Ankylosing Spondylitis Disease Activity Index
8. **BASFI** = Bath Ankylosing Spondylitis Functional Index
9. **BASMI** = Bath Ankylosing Spondylitis Metrology Index
10. **BASRI** = Bath Ankylosing Spondylitis Radiology Index
11. **C7** = Cervical spine number 7
12. **CBP** = Complete Blood Picture
13. **CES** = Cauda Equina Syndrome
14. **CK** = Creatine Kinase
15. **CL** = Cortical Latency
16. **cm** = centimeter
17. **CMAP** = Compound Motor Action Potential
18. **CMCT** = Central Motor Conduction Time
19. **CNAP** = Compound Nerve Action Potential
20. **CNS** = Central Nervous System
21. **Cort L** = Cortical Latency
22. **CR** = Cervical Rotation
23. **CRP** = C-reactive Protein
24. **CSF** = Cerebro-Spinal Fluid
25. **CT**= Computed Tomography
26. **Cx L** = Cervical Latency

27. **EMG** = Electromyography
28. **EP** = Erb's Potential
29. **ESR** = Erythrocytic Sedimentation Rate
30. **ESSG** = European Spondyloarthropathy Study Group
31. **HAQ** = Health Assessment Questionnaire
32. **HAQ-S** = Health Assessment Questionnaire modified for Spondyloarthropathies
33. **HLA** = Human Leukocytic antigen
34. **Hz** = Hertz
35. **Ig** = Immunoglobulines
36. **IMD** = Inter-Malleolar Distance
37. **LL** = Lower limb
38. **LSF** = Lateral Spinal Flexion
39. **m sec** = millisecond
40. **MEP** = Magnetic Evoked Potential
41. **MMEP** = Motor Magnetic Evoked Potential
42. **MRI**= Magnetic Resonance Imaging
43. **NSAIDs** = Non Steroidal Anti-Inflammatory Drugs
44. **OALL**= Ossification of Anterior Longitudinal Ligament
45. **OPLL** = Ossification of Posterior Longitudinal Ligament
46. **RBCs** = Red Blood Cells
47. **Rh F** = Rheumatoid Factor
48. **RL** = Root Latency
49. **S.I.J** = Sacro-iliac Joint
50. **SASSS** = Stock Ankylosing Spondylitis Spine Score
51. **SpA** = Spondyloarthropathies
52. **SSEP** = Somato-Sensory Evoked Potential
53. **TLF** = Thorac-Lumbar Flexion
54. **TWD** = Tragus to Wall Distance

55. **UL** = Upper Limb
56. **uV** = micro-Volt
57. **VAS** = Visual Analog Scale

CONTENTS

Contents

INTRODUCTION AND AIMS OF THE WORK

Introduction and Aims of the work

Ankylosing spondylitis (AS) is a chronic inflammatory disease characterized by involvement of the sacroiliac and spinal joints, peripheral arthritis and enthesopathy. Extra-articular manifestations may be seen (Batlle-Gualda & Pascual, 1997).

It is the main representative of the group spondyloarthropathies, which share a number of clinical features and probably have similar pathogenic mechanisms (Khan, &van der Linden, 1990).

Ankylosing spondylitis has affected mankind for several millennia, but there is now increasing information about the genetic back ground of the condition, and in recent years, there is a greater understanding of the factors affecting the prognosis (Calin, 1993).

Back complaints are the first clinical manifestation in approximately 75% of patients with adult onset AS. No system in the body escapes the ravages of AS-cardiac, lung and neurological involvement all occur. Ankylosing spondylitis dose not burn out, but continues to be active more or less continuously (Calin, 1999).

Several studies were done in order to clarify different causes of musculoskeletal and neurological manifestations affecting the region of the back. Different investigatory tools have been used for that purpose including clinical, laboratory, radiological and recently electromyography (EMG) methods.

Ankylosing spondylitis is a frequent cause of disability in young men and women. Early recognition and referral is mandatory. Neurophysiological studies became an integral part of the modern era of diagnostic tools of most of neurological disease and recently it began to be introduced in diagnostic work up of some rheumatological diseases, such as AS (Pillay & Hunter, 1986). Some of these pilot studies have been done on neurophysiological changes in AS, few literatures found no definite correlation between EMG changes and clinical