

CONTENTS

Introduction	1
Aim of the work	4
Review of literature	
I] Anatomy of the Temporal lobe	5
Gross anatomy	
MR anatomy	
II] Basic principles of MR spectroscopy	28
MRS in vivo	
Proton MRS brain spectra	
Localization techniques	
III] The application of MRS to specific neurologic diseases	40
IV] The concept of temporal lobe epilepsy	54
Definition and epidemiology	
Seizure semiology	
Etiology	
Mesial temporal lobe epilepsy syndrome	
Electroencephalographic findings	
Subgroups of temporal lobe epilepsy	
Course of temporal lobe epilepsy	
V] Neuro-imaging of temporal lobe epilepsy	63
1. Computed tomography (CT)	
2. Magnetic Resonance Imaging (MRI)	
3. Volumetric MRI	
4. Single Photon Emission Computed Tomography (SPECT)	
5. Positron emission tomography (PET)	
6. Functional MR imaging (fMR)	
7. T2 relaxometry	
8. Diffusion tensor imaging	
9. Magnetoencephalography (MEG)	
VI] MRS in temporal lobe epilepsy	86
MRS in TLE	
Proton MR spectroscopy and distinguishing subgroups of TLE	
Prognostic value of MRS in the surgical outcome	
Case presentation	94
Discussion	114
Summary	117
Conclusion	118
References	119
Arabic summary	