

Contents

Preface	ix	5 EEG in cerebrovascular disease	161
List of contributors	xi	5.1 Ischemia	161
1 EEG basics	1	5.2 Hemorrhage	161
1.1 Electrode nomenclature, polarity and referential vs. bipolar montages	1	Suggested reading	162
1.2 Normal EEG: awake and asleep	4	Figures 5.1–5.18	163
Suggested reading	6	6 Artifacts that can mimic seizures or other physiologic patterns	187
Figures 1.0–1.12	7	Suggested reading	190
2 EEG in encephalopathy	39	Figures 6.1–6.20	191
2.1 Nonspecific patterns of encephalopathy	39	7 Prolonged EEG monitoring and quantitative EEG techniques for detecting seizures and ischemia	217
2.2 Patterns suggesting specific diagnoses	39	Suggested reading	219
2.3 Findings in specific clinical scenarios	40	Figures 7.1–7.10 Quantitative EEG (QEEG) basics	222
2.4 Medication effects	40	Figures 7.11–7.17 Basics of seizure detection	240
Suggested reading	41	Figures 7.18–7.21 Cyclic seizures and PLEDs	250
Figures 2.1–2.35	43	Figures 7.22–7.25 Other QEEG techniques and uses in patients with seizures	256
3 Seizures and status epilepticus	89	Figures 7.26–7.31 Detecting other (non-seizure) events	262
Suggested reading	89	Figures 7.32–7.35 Long-term trends	272
Figures 3.1–3.10	91	Figures 7.36–7.46 ICU artifacts	276
4 Periodic discharges and other controversial EEG patterns	129	Figures 7.47–7.48 Spreading depression/peri-injury depolarizations	288
4.1 PLEDs, BIPLEDs, GPEDs and triphasic waves	129	Figures 7.49–7.54 Multimodality monitoring and intracranial EEG in the ICU	290
4.2 SIRPIDs	130		
4.3 Standardized nomenclature	130		
Suggested reading	130		
Figures 4.1–4.18	132		

viii

8	Evoked and event-related potentials in the ICU
8.1	Median nerve somatosensory evoked potentials
8.2	Brainstem auditory evoked potentials
8.3	Flash visual evoked potentials
8.4	Event-related potentials
	Suggested reading

CONTENTS

299	Appendix ACNS Standardized EEG Research Terminology and Categorization for the investigation of rhythmic and periodic patterns encountered in critically ill patients: July 2009 version	315
312	Index	329