

Contents

Foreword	
A. Moss	iii
Contributors	v
Preface	
M. Malik, A. J. Camm	ix

Part I. Background

1. The Control and Physiological Importance of Heart Rate	
R. Hainsworth	3
2. Circadian Changes of the Cardiovascular System and the Autonomic Nervous System: Observations in Autonomic Disorders	
C. J. Mathias, M. Alam	21

Part II. Measurement of Heart Rate Variability

3. Time-Domain Measurements of Heart Rate Variability	
R. E. Kleiger, P. K. Stein, M. S. Bosner, J. N. Rottman	33
4. Geometrical Methods for Heart Rate Variability Assessment	
M. Malik	47
5. Spectral Analysis of the Heart Rate Variability Signal	
S. Cerutti, A. M. Bianchi, L. T. Mainardi	63
6. Correction of the Heart Rate Variability Signal for Ectopics and Missing Beats	
M. V. Kamath, E. L. Fallen	75
7. Nonlinear Methods for Heart Rate Variability Assessment	
G. Schmidt, G. E. Morfill	87
8. Effect of Electrocardiogram Recognition Artifact on Time-Domain Measurement of Heart Rate Variability	
M. Malik	99

9. Correspondence of Different Methods for Heart Rate Variability Measurement
J. Kautzner, K. Hnatkova119
10. Heart Rate Variability Instruments from Commercial Manufacturers
H. L. Kennedy127

Part III. Physiology of Heart Rate Variability

11. Models for the Analysis of Cardiovascular Variability Signals
G. Baselli, A. Porta, G. Ferrari135
- X 12. Components of Heart Rate Variability: Basic Studies
S. Akselrod147
13. Reproducibility of Heart Rate Variability Measurement
J. Kautzner165
14. Association of Heart Rate Variability Components with Physiological Regulatory Mechanisms
A. Malliani173
- X 15. Baroreflex Sensitivity and Heart Rate Variability in the Assessment of the Autonomic Status
M. T. La Rovere, A. Mortara, G. D. Pinna, L. Bernardi189
- X 16. Heart Rate and Heart Rate Variability
P. Coumel, P. Maison-Blanche, D. Catuli207
17. Heart Rate Variability and Sympatho-Vagal Interaction after Myocardial Infarction
F. Lombardi, G. Sandrone223
18. Effect of Age on Heart Rate Variability
O. Odemuyiwa235
19. The Relationship between Ventricular Function and Heart Rate Variability
O. Odemuyiwa241
- X 20. Effects of Physical and Mental Exercise on Heart Rate Variability
M. Pagani, D. Lucini, O. Rimoldi, R. Furlan, S. Piazza, L. Biancardi245
21. Heart Rate Response to Provocative Maneuvers
D. Andresen, T. Brüggemann, S. Behrens, C. Ehlers267
22. Effects of Pharmacological Interventions on Heart Rate Variability: Animal Experiments and Clinical Observations
L. Fei275
23. Circadian Rhythms of Heart Rate Variability
E. L. Fallen, M. V. Kamath293

24. Relationships between Heart Rate, Respiration and Blood Pressure Variabilities
P. Sleight, B. Casadei311

Part IV. Clinical Implications and Use of Heart Rate Variability

25. Heart Rate Variability and Risk Stratification after Myocardial Infarction
M. S. Bosner, R. E. Kleiger.....331

26. Short-Term and Long-Term Assessment of Heart Rate Variability for Postinfarction Risk Stratification
L. Fei, M. Malik341

27. Heart Rate Variability and Risk Stratification Post-myocardial Infarction
E. Vanoli, P. B. Adamson, D. Cerati, S. S. Hull, Jr347

28. Heart Rate Variability and Risk Stratification after Acute Myocardial Infarction: Change in Heart Rate Variability after Acute Myocardial Infarction
O. Odemuyiwa.....363

29. Risk Stratification Following Myocardial Infarction: Heart Rate Variability and Other Risk Factors
A. J. Camm, L. Fei.....369

30. Practicality of Postinfarction Risk Assessment Based on Time-Domain Measurement of Heart Rate Variability
M. Malik, K. Hnatkova, A. J. Camm393

31. Interventions Changing Heart Rate Variability after Acute Myocardial Infarction
P. J. Schwartz, G. M. De Ferrari407

32. Changes of Heart Rate Variability Preceding Ventricular Arrhythmias
T. Vybiral, D. H. Glaeser.....421

33. Changes in Heart Rate Variability Associated with Sudden Cardiac Death
D. H. Singer, Z. Ori429

34. Heart Rate Variability in Patients with Heart Failure
G. C. Casolo449

35. Heart Rate and Blood Pressure Variability and Their Interaction in Hypertension
G. Parati, M. Di Rienzo, A. Groppelli, A. Pedotti, G. Mancia467

36. Heart Rate Variability after Cardiac Transplantation
J. P. Saul, L. Bernardi479

37. Heart Rate Variability in Patients with Other Cardiovascular Diseases
J. Kautzner495

38. Heart Rate Variability in Patients with Diabetes and Other Noncardiological Diseases
F. Bellavere.....507

39. Heart Rate Variability in the Fetus
M. Hirsch, J. Karin, S. Akselrod517

40. Ventricular Response in Patients with Sustained Atrial Fibrillation: Relation to the Underlying Cardiovascular Disease
M. W. F. Schweizer, KGC da Silva, W. Kübler, J. Brachmann.....533

Index.....539