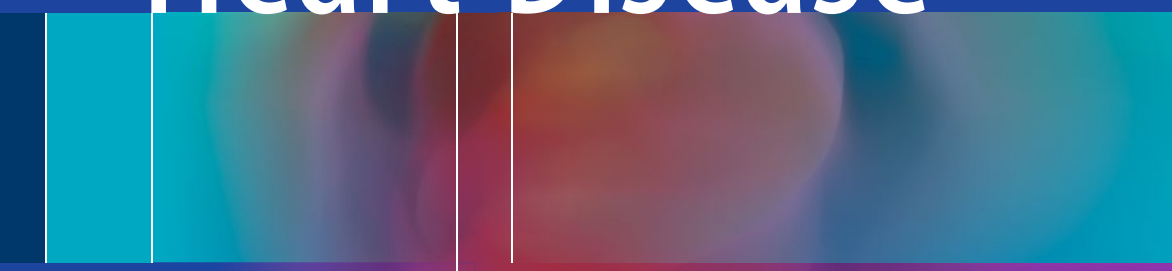
Psychotherapy for Ischemic Heart Disease



An Evidence-based Clinical Approach

Adriana Roncella
Christian Pristipino
Editors

Springer

Psychotherapy for Ischemic Heart Disease

This picture was created by Antonella Cappuccio

Adriana Roncella • Christian Pristipino
Editors

Psychotherapy for Ischemic Heart Disease

An Evidence-based Clinical Approach

Springer

Editors
Adriana Roncella
San Filippo Neri Hospital
Rome
Italy

Christian Pristipino
San Filippo Neri Hospital
Rome
Italy

ISBN 978-3-319-33212-3 ISBN 978-3-319-33214-7 (eBook)
DOI 10.1007/978-3-319-33214-7

Library of Congress Control Number: 2016944615

Printed on acid-free paper

This Springer imprint is published by Springer Nature
The registered company is Springer International Publishing AG Switzerland

We would like to dedicate this book to:
My loved father, my son and my daughter, my brother and to all those scholars interested in research on "Cardiac Psychology"
(Adriana Roncella)

To my father and mother,
To professor Attilio Maseri, mentor and master in scientific innovation,
To all the persons suffering or having suffered from ischemic heart disease and their families
(Christian Pristipino)

Preface

Cardiovascular disease is the single most frequent cause of death and disability worldwide, and ischemic heart disease (IHD) accounts for approximately one-half of these events in high-income countries. Though this death rate is somewhat lower in medium- to low-income countries, current years are witnessing a steep and accelerating rise in its weight, relative to other diseases [1]. Indeed, despite a dramatic decrease in IHD incidence and mortality since the 1970s due to improvements in treatments and prevention [2], IHD still caused over 2.1 million deaths (23 % of all deaths) [3] in Europe in 2015 and resulted in over 165 million disability-adjusted life-years (DALYs) lost in 2012 (6 % of all disability claims) [4]. Moreover, while the average age at death from IHD is climbing, due to the effectiveness of primary and secondary prevention and the treatment of acute manifestations, a progressively larger population of seniors is suffering from IHD and its late complications, including heart failure.

Further improvements are expected with more effective reductions in the prevalence of key risk factors and the widespread availability of treatments proven to be more successful in the acute and chronic phases of disease. In this regard, accumulating data demonstrate the independent importance of previously underestimated factors (e.g., psychosocial), which become more ominous by interacting with other risk-predisposing factors and pathogenic processes, like lifestyle habits and inflammation, two facets that appear to intertwine in a way that is both complex and still poorly understood.

The emerging role of these previously neglected processes reveals that the still dreadful impact of IHD must be explained not only by the imperfect or incomplete way in which accepted interventions are implemented, but also by our less than comprehensive knowledge regarding the processes underlying IHD and their way of connecting reciprocally. In fact, the concept of IHD has evolved considerably over the last few decades, starting with the genesis of myocardial infarction being seen as merely the gradual occlusion of epicardial stenosis in a fixed artery, but progressing to the discovery of the dynamic properties of the epicardial coronary tree [5], the functional contribution of the endothelium [6], and the role of systemic processes of coagulation [7, 8] and and inflammation [9] during the predisposing/precipitatory phase of acute coronary events.

Nowadays, IHD is considered a heterogenous array of different syndromes, each with different presentations and underlying pathophysiological processes, which in turn connect at several organizational levels (cell, tissue, organ, and systemic) that remain at least partially unknown [10].

Shedding light on new processes and on the way such processes interact—thereby giving rise to different manifestations in different populations and individuals, but also in the same individual at different times—will certainly contribute to improving our understanding of IHD and further the therapeutic success already achieved with existing therapies and preventative strategies. The complex, dynamic network that causes IHD is, however, highly nondeterministic and requires new, multidimensional approaches, in both research and the clinical sector, to be comprehensively addressed [11].

In this textbook, via an extensive state-of-the-art overview, we focus on one of the new promising areas of interest in ischemic heart disease: the potential to modulate the psycho-neural processes relevant in ischemic heart disease using therapeutic interventions targeting patients' psychologic dimension. These interventions have several characteristics that render them both fascinating and very different from classic medical interventions, opening new avenues into interdisciplinary approaches. Particularly, some of these issues deserve attention because they imply a shift in the general therapeutic paradigms of IHD.

First, acting through pure qualitative instruments, psychological interventions act on a multidimensional scale by simultaneously affecting mood and behavioral changes (thereby influencing changes in lifestyle and augmenting drug compliance), but also through local and remote biological processes that exert direct impacts upon ischemic heart disease.

Second, psychotherapeutic interventions can only produce benefits via active involvement of the patient being treated. As such, their implementation can only be partially manualized, with adaptations and variations often necessary.

Third, psychological interventions often require the personal, emotional, and existential involvement of a caring healthcare professional as a prerequisite to therapy, a marked shift from the prevalent paradigm that considers the physician merely an objective observer.

Several issues need to be clarified in a near future, for example, which psychological interventions are more useful in which patients and at which stage of IHD, what is the optimal timing and duration of interventions, and how can different approaches be combined, including psychopharmacologic tools. Moreover, that the intervention is largely administered in a qualitative dimension (as opposed to drugs that have fixed, quantifiable doses) should not obscure the possible existence of side effects that need to be monitored and specifically studied [12].

This monograph reports on the results of different psychological interventions performed in addition to medical approaches in ischemic heart disease patients, while providing explanations and clarifications of their theoretical basis, empirical justification, and practical application. It reviews the current state of the art and extends this to incorporate the most recent approaches, as well as future applications, thereby yielding insights into practical models that integrate psychotherapy with medical

practices in hospital, outpatient clinics, and rehabilitation programs, as already implemented in different settings.

The book's contributors are experts in the fields of psychotherapy, pharmacology, and clinical and interventional cardiology, forming the basis of an interdisciplinary approach to patients. Moreover, the book is written as both a textbook and practical manual targeting psychologists, psychotherapists, psychiatrists, cardiologists, internists, cardiac surgeons, general practitioners, rehabilitation doctors, nurses, students in their first or second year of PhD or MD studies, and also patients.

In the first section, the authors summarize, in an original systemic framework, some of the published empirical evidence documenting the bidirectional relationships that exist between the psycho-neural system and the biological processes underlying ischemic heart disease. This complex framework considers both risk factors and such indirect processes as those mediated via inflammation, coagulation, and hormonal changes, along with the gastrointestinal system and the function of sleep and dreams in cardiovascular pathophysiology, two facets that are seldom considered. Additionally, the role of gender in psychobiological processes is taken into account.

In the second section, psychobiological interventions are addressed via an original and up-to-date meta-analysis of psychotherapies, while providing a general integrative framework for collaboration between medicine and psychology. Furthermore, different perspectives are explored—from pharmacology to cardiac rehabilitation to psychotherapeutics, including approaches such as mind–body and cognitive-behavioral techniques, as well as a novel short-term psychotherapeutic approach derived from ontopsychological method—to provide insights into some of the principal potential interventions and how they might be integrated. Also in this second section, a number of practical issues are reviewed, including the use of psychometric and projective tests and the importance of both verbal and nonverbal modes of communication during the delivery of psychological and medical interventions. Finally, a number of real-world experiences are described, involving both hospital inpatients and clinic outpatients, along with examples of IHD patients managed with psychotherapy.

Our overall aim is to introduce readers to the roles and breadth of psychology and psychotherapeutics in the management of heart disease patients, and how the latter needs to be integrated into the now-outdated model of medical management alone. Doing so will not only lead to a better understanding of the underlying complex pathological processes that exist during the development of ischemic heart disease, it will afford clinicians with additional, complementary tools with which to augment outcomes in these patients. Given the rapidly mounting evidence demonstrating the tremendous biopsychosocial complexity of cardiac disease, both acute and chronic, the time has come to abandon the old approach of treating just the disease itself, in favor of the contemporary and much more effective and comprehensive approach of treating the patient with evidence-based personalized strategies encompassing systems medicine approaches.

Christian Pristipino
Adriana Roncella

References

1. Global Burden of Disease Study 2010 (2012) Global Burden of Disease Study 2010 (GBD 2010) Mortality Results 1970–2010. Institute for Health Metrics and Evaluation (IHME), Seattle
2. Ford ES, Ajani UA, Croft JB et al (2007) Explaining the decrease in U.S. deaths from coronary disease, 1980–2000. N Eng J Med 356(23):2388–2398
3. World Health Organization (2014) Projections of mortality and causes of death, 2015 and 2030. http://www.who.int/healthinfo/global_burden_disease/projections/en/. Accessed 20 Jan 2016
4. World Health Organization (2013) Health statistics and information systems. Disease burden. Estimates for 2000–2012 by region. http://www.who.int/healthinfo/global_burden_disease/estimates/en/index2.html. Accessed 20 Jan 2016
5. Maseri A, Pesola A, Marzilli M et al (1977) Coronary vasospasm in angina pectoris. Lancet 1 (8014):713–717
6. Furchgott RF, Zawadzki JV (1980) The obligatory role of endothelial cells in the relaxation of arterial smooth muscle by acetylcholine. Nature 288:373–376
7. Gruppo Italiano per lo Studio della Streptochinasi nell'Infarto Miocardico (GISSI) (1986) Effectiveness of intravenous thrombolytic treatment in acute myocardial infarction. Lancet 1 (8478):397–402
8. ISIS-2 (Second International Study of Infarct Survival) Collaborative Group (1988) Randomised trial of intravenous streptokinase, oral aspirin, both, or neither among 17,187 cases of suspected acute myocardial infarction: ISIS-2. Lancet 2(8607):349–360
9. Liuzzo G, Biasucci LM, Gallimore JR et al (1994) The prognostic value of C-reactive protein and serum amyloid a protein in severe unstable angina. N Eng J Med 331(7):417–424
10. Maseri A (2000) From syndromes to specific disease mechanisms. The search for the causes of myocardial infarction. Ital Heart J 1(4):253–257
11. Pristipino C (2012) Systems medicine as a scientific method for individualizing therapies in cardiology. Monaldi Arch Chest Dis 78(1):3–5
12. Berkman LF, Blumenthal J, Burg M et al. (2003) Effects of treating depression and low perceived social support on clinical events after myocardial infarction: the Enhancing Recovery in Coronary Heart Disease Patients (ENRICHD) Randomized Trial. JAMA 289 (23):3106–3116

Acknowledgments

Acknowledgments to all our colleagues who participated in and contributed to the STEP-IN-AMI trial:

Giuseppe Richichi[1]; Giulio Speciale (see footnote 1); Cinzia Cianfrocca[2]; Silvia Scorza (see footnote 1); Vincenzo Pasceri (see footnote 1); Francesco Pelliccia (see footnote 1); Johan Denollet[3]; Susanne S Pedersen[4]; Antonella Giornetti (see footnote 1); Antonino Granatelli[5]; Carlo Pignalberi (see footnote 2); Stefano Pazzelli (see footnote 1); and Diana La Rocca (see footnote 1).

Acknowledgment for their contribution to the realization of the research goes to Anna Patrizia Jesi (see footnote 2); Massimo Santini (see footnote 2); Mario Staibano[6]; Carlo Gonnella (see footnote 1); Sebastiano La Rocca[7]; Marina Vitillo (see footnote 7); Antonio Varveri (see footnote 1); Diego Irini (see footnote 1); and Andrea Bisciglia (see footnote 1).

Acknowledgment for his support during the preparation of the book goes to Dr. Marco Picichè in the Heart Surgery Unit, San Camillo Hospital, Rome, Italy.

[1] Interventional Cardiology Unit, San Filippo Neri Hospital, Rome, Italy.

[2] Cardiology Unit, San Filippo Neri Hospital, Rome, Italy.

[3] CoRPS—Center of Research on Psychology in Somatic Disease, Tilburg University, Tilburg, The Netherlands.

Department of Cardiology, Thorax Center, Erasmus Medical Center, Rotterdam, The Netherlands.

Department of Cardiology, University Hospital Antwerp, Antwerp, Belgium.

[4] CoRPS—Center of Research on Psychology in Somatic Disease, Tilburg University, Tilburg, The Netherlands.

Department of Cardiology, Thorax Center, Erasmus Medical Center, Rotterdam, The Netherlands).

[5] Director of the Cardiology Unit, Tivoli Hospital, Rome, Italy.

[6] Heart Surgery Unit, San Filippo Neri Hospital, Rome, Italy.

[7] Clinical Pathology Unit, San Filippo Neri Hospital, Rome, Italy.

Contents

List of Contributors

Antonio Abbate, MD, PhD Division of Cardiology, VCU Pauley Heart Center, Virginia Commonwealth University, Richmond, VA, USA

Giuseppe Biondi-Zoccai, MD, MStat Department of Medico-Surgical Sciences and Biotechnologies, Sapienza University of Rome, Latina, Italy

Department of AngioCardioNeurology, IRCCS Neuromed, Pozzilli, Italy

Maria Bonadies, PsyD Associazione Italiana di Psicologia Analitica (AIPA), Roma, Italy

Sergio Boria, MD Italian Association of Systemic Epistemology and Methodology (AIEMS), Associazione Italiana di Medicina e Sanità Sistemica (ASSIMSS), Roma, Italy

Furio Colivicchi, MD, FESC, FACC Cardiology Unit, San Filippo Neri Hospital, Rome, Italy

Oretta Di Carlo, PsyD Forma & Azione Cultural Association, Rome, Italy

Serena Dinelli, PsyD Italian Association of Systemic Epistemology and Methodology (AIEMS), Rome, Italy

Stefania Angela Di Fusco, MD Cardiology Unit, San Filippo Neri Hospital, Rome, Italy

Loreta Di Michele, MD San Camillo-Forlanini Hospital, Rome, Italy

Giacomo Frati, MD, MSc Department of Medico-Surgical Sciences and Biotechnologies, Sapienza University of Rome, Latina, Italy

Department of AngioCardioNeurology, IRCCS Neuromed, Pozzilli, Italy

Silvio Garattini, MD IRCCS Istituto di Ricerche Farmacologiche Mario Negri, Milan, Italy

Antonella Giornetti, PsyD Department of Cardiovascular Disease, San Filippo Neri Hospital, Rome, Italy

Roberto Latini, MD IRCCS Istituto di Ricerche Farmacologiche Mario Negri, Milan, Italy

David Lazzari, PsyD Servizio di Psicologia Ospedaliera, Azienda Ospedaliera "S. Maria" Terni, Terni, Italy

Ludovico Lazzari, MD UO Cardiologia, Università degli Studi di Perugia, Azienda Ospedaliera "S. Maria" Terni, Terni, Italy

Marianna Mazza, MD, PhD Institute of Psychiatry, Catholic University, Rome, Italy

Andrew B. Newberg, MD Integrative Medicine/Nuclear Medicine, Brind-Marcus Center of Integrative Medicine, Thomas Jefferson University Hospital, Villanova, PA, USA

Stephen Olex, MD Integrative Cardiology, Brind-Marcus Center of Integrative Medicine, Thomas Jefferson University Hospital, Villanova, PA, USA

Antonia Pierobon, PsyD Psychology Unit, Salvatore Maugeri Foundation, Care and Research Institute, Montescano, Pavia, Italy

Vincenzo Pasceri, MD Department of Cardiovascular Disease, San Filippo Neri Hospital, Rome, Italy

Christian Pristipino, MD Department of Cardiovascular Disease, San Filippo Neri Hospital, Rome, Italy

Marina Risi, MD Italian Society of Psychoneuroendocrinoimmunology (SIPNEI), Rome, Italy

Leonardo Roever, MHS Department of Clinical Research, Federal University of Uberlândia, Uberlândia, Brazil

Adriana Roncella, MD Department of Cardiovascular Disease, San Filippo Neri Hospital, Rome, Italy

Marco Sanges, MD Gastroenterology Unit, Federico II University of Naples, Naples, Italy

Massimo Santini, MD, FESC, FACC Regional Research Center on Cardiac Arrhythmias, San Filippo Neri Hospital, Rome, Italy

Silvia Scorza, PsyD Department of Cardiovascular Disease, San Filippo Neri Hospital, Rome, Italy

Amit J. Shah, MD, MSCR Department of Epidemiology, Emory University, Atlanta, GA, USA

Rosa Sollazzo, MD Gastroenterology Unit, Federico II University of Naples, Naples, Italy

Marinella Sommaruga, PsyD Clinical Psychology and Social Support Unit, Salvatore Maugeri Foundation, Care and Research Institute, Milan, Italy

Marinella Spaziani Department of Cardiovascular Disease, San Filippo Neri Hospital, Rome, Italy

Giulio Speciale, MD Department of Cardiovascular Disease, San Filippo Neri Hospital, Rome, Italy

Viola Vaccarino, MD Department of Epidemiology, Emory University, Atlanta, GA, USA

Jan van Dixhoorn, MD, PhD Centre for Breathing therapy, Amersfoort, The Netherlands

About the Editors

Adriana Roncella was born in Rome, where she currently lives and works. After graduating with a degree in Medicine and Surgery, she subsequently specialized in Cardiology and Psychotherapy. Since 1992, she has been working in the Cardiovascular Disease Department at San Filippo Neri Hospital in Rome. A series of fateful events and her own innate interest in the human condition ultimately led her to incorporate psychotherapy into her clinical and interventional cardiology practice. Combining these seemingly divergent medical fields, she has succeeded in developing a more holistic and effective approach to managing her patients, particularly focusing on patients with ischemic heart disease.

She has been conducting and publishing research on psychosocial risk factors in ischemic cardiac disease since 2000. She is also one of two coprincipal investigators for the randomized clinical trial *S*hort-*TE*rm *P*sychotherapy *IN A*cute *M*yocardial *I*nfarction (*STEP-IN-AMI*), an ongoing study that assesses the short- and long-term effectiveness of short-term psychotherapy in patients who present with an acute myocardial infarction and undergo revascularization by primary PTCA. One-year STEP-IN-AMI results were presented at the European Congress of Cardiology in Munich, Germany, in 2012 and published in the Journal of International Cardiology in 2013. For this research, Dr. Roncella was awarded the 2014 "Antonio Meneghetti Award for Research in Medicine" from the Antonio Meneghetti Scientific and Humanistic Research Foundation.