

Federal State Autonomous Educational Institution of Higher Education
I.M. Sechenov First Moscow State Medical University
of the Ministry of Healthcare of the Russian Federation
(Sechenov University)



SECHENOV UNIVERSITY
LIFE SCIENCES

CHRONIC HEART FAILURE

Manual

Edited by A.L. Syrkin and M.G. Poltavskaya

Рекомендовано Координационным советом по области образования «Здравоохранение и медицинские науки» в качестве учебного пособия для использования в образовательных учреждениях, реализующих основные профессиональные образовательные программы высшего образования специалитета по направлению подготовки 31.05.01 «Лечебное дело»



MEDICAL INFORMATIONAL AGENCY
MOSCOW
2024

UDC 616.12-008.46-036.12(075.8)

*Получена положительная рецензия Экспертной комиссии по работе с учебными изданиями ФГАОУ ВО Первый МГМУ имени И.М. Сеченова Минздрава России (Сеченовский Университет)
№ 1538 ЭКУ от 21 октября 2021 г.*

Contributors:

Alyona I. Novikova, Maria G. Poltavskaya, Philip Y. Kopylov, Daria G. Gognieva, Denis A. Andreev, Elena A. Syrkin, Pyotr S. Chomakhidze, Anna S. Akselrod, Dmitry Y. Shchekochikhin, Dinara F. Mesitskaya, Alexandra A. Bykova, Maria I. Chashkina, Zukhra K. Salpagarova, Maria V. Serova, Nana A. Gogiberidze.

Reviewers:

F.T. Ageev — Doctor of Medicine, professor, head of the Research and Dispensary Department at the National Medical Research Centre for Cardiology under the Ministry of Health of the Russian Federation;

S.T. Matskeplishvili — corresponding member of the Russian Academy of Sciences, professor, deputy director for research at the Medical Research and Education Centre of the Lomonosov Moscow State University.

Syrkin, A.L.

Chronic Heart Failure : Manual / Edited by A.L. Syrkin and M.G. Poltavskaya. — Moscow : Medical Informational Agency, 2024. — 84 p.

ISBN 978-5-9986-0485-0

The manual discusses modern clinical approaches to examining and treating patients with chronic heart failure. The manual contains tests and cases, with its structure spotlighting key aspects of analyzable pathological processes, coordinating and specifying the educational process.

The Chronic Heart Failure manual was prepared for cardiology classes in compliance with the Federal State Educational Standard for Higher Professional Training of General Medicine students (Clinical Medicine — 31.05.01).

UDC 616.12-008.46-036.12(075.8)

ISBN 978-5-9986-0485-0

- © Сыркин А.Л., Полтавская М.Г. и др., 2024
- © ФГАОУ ВО Первый МГМУ им. И.М. Сеченова Минздрава России (Сеченовский Университет), 2024
- © Оформление. ООО «Издательство «Медицинское информационное агентство», 2024

Все права защищены. Никакая часть данной книги не может быть воспроизведена в какой-либо форме без письменного разрешения владельцев авторских прав.

CONTENTS

<i>Introduction</i>	5
<i>Acronyms</i>	6
Chapter 1. Terminology.....	9
Chapter 2. Etiology.....	11
Chapter 3. The Pathophysiology of Chronic Heart Failure.....	14
Chapter 4. The Classification of Chronic Heart Failure.....	17
Chapter 5. Diagnosis of Chronic Heart Failure	20
Chapter 6. CHF Patient Management	27
6.1. Prevention of Chronic Heart Failure	28
Chapter 7. Treatment	30
7.1. Goals of CHF Treatment	30
7.2. Planning of CHF Treatment.....	30
7.3. Treatment Phases	31
7.4. Description of CHF Drugs.....	31
7.5. CHF Medication Approaches Based on Neurohormonal Blockade	47
7.6. Indications for the Implantation of Cardioverter Defibrillator and Cardiac Resynchronization Therapy	47
7.7. Surgical Treatment.....	48

Chapter 8. Chronic Heart Failure with the Preserved Left Ventricular Ejection Fraction.....	51
Chapter 9. The Assessment and Clinical Manifestations of Acute Heart Failure (AHF).....	53
9.1. Causes of CHF Decompensation.....	56
9.2. Clinical Symptoms and Diagnosis of Acute Decompensated Heart Failure	56
9.3. Indications for Hospitalization	58
9.4. The Primary Approach to Managing Patients Hospitalized Due to the Acute Decompensated Heart Failure.....	59
9.5. Adjustment of the Principal Therapy in Patients with the Acute Decompensated Heart Failure	64
9.6. Management of Pulmonary Oedema.....	66
9.7. Management of Right Ventricular Failure	67
9.8. Management of Cardiogenic Shock	68
9.9. Stages of Management of Patients with Acute Heart Failure.....	69
9.10. Initial Management of Acute Heart Failure	70
9.11. Diuretic Therapy (Furosemide) in Acute Heart Failure.....	71
<i>Tests</i>	72
Keys to Tests.....	74
<i>Situational Cases</i>	75
Keys to Situational Cases	80
<i>References</i>	82

INTRODUCTION

Chronic Heart Failure is a very widespread disease, being found worldwide in 1 to 2% of total population, affecting 10% of elderly people above 70. In Russia, chronic heart failure is diagnosed in 7–10% of total population. Chronic heart failure is expected to become even more frequent in the future due to the population ageing. However, despite considerable achievements of modern medicine in heart failure treatment, the mortality rate is still high.

Heart failure, *inter alia*, very often causes hospital admissions all over the world, significantly deteriorating the quality of patients' lives, making them less able to work or unable to do it at all, with the medical treatment becoming a serious financial burden for the society, patients and their close ones.

Modern methods for heart failure prevention and treatment help to significantly decrease the probability of this complication in patients with cardiovascular diseases, prolong their life and improve its quality in patients who have already been diagnosed with chronic heart failure.