

**PRACTICE OF CARDIOLOGY WITH
CURRENT DIAGNOSTIC AND THERAPEUTIC INTERVENTIONS
A COMPREHENSIVE REVIEW OF CARDIOVASCULAR MEDICINE**

(For Cardiologists, Physicians and Post-graduate Students)

Volume - I

PRACTICE OF CARDIOLOGY WITH CURRENT DIAGNOSTIC AND THERAPEUTIC INTERVENTIONS

A COMPREHENSIVE REVIEW OF CARDIOVASCULAR MEDICINE

(For Cardiologists, Physicians and Post-graduate Students)

Volume - I

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Dedicated To
Ancient Indian System of Medicine and
Modern Health Care—An Annotation



Acharya Sushruta—the Master of Surgery and author of Sushruta Samhita in Ayurveda

Historical Background : Ayurveda (Sanskrit: आयुर्वेद;) medicine is a Hindu system of traditional medicine native to India and a form of alternative medicine. The *Susruta Samhita* and the *Charaka Samhita*, encyclopedia of medicine compiled from various sources from the mid-first millennium BCE to about 500 C. are among the foundational works of Ayurveda. Over the following centuries, ayurvedic practitioners developed a number of medicinal preparations and surgical procedures for the treatment of various ailments. *Shalya Tantra* a book of surgical procedures prescribed by Sushruta and later recast as *Sushruta Samhita* is an unparalleled work of the medical science of ancient India, popular as Ayurveda. The author of this Sanskrit text of amazing surgical procedures of accuracy and curative efficacy is known as Sushruta. Parts of this great work had been revised or reworked during later periods. And therefore, experts consider this samhita as the collective contribution of a chain of medical practitioners of ancient India. There is no wonder that this classic work has become an essential part of the culture of India. The *Sushruta Samhita* contains 184 chapters and description of 1120 illnesses, 700 medicinal plants, a detailed study on Anatomy, 64 preparations from mineral sources and 57 preparations based on animal sources. He describes eight different operations for surgery, like cutting, opening, scratching, piercing, inserting etc, and finally stitching up. He was both a practitioner and a teacher of surgery. His contribution to the ancient cultural heritage of India invaluable.

Dedicated To
Respected (Late) Madam Dr. S. I. Padmavati



Dr. S. I. Padmavati (Sivaramakrishna Iyer Padmavati)

Commonly known as S. I. Padmavati or S. Padmavati (born 20th June 1917) is an Indian cardiologist. She is director of the National Heart Institute, Delhi and the founder president of the All India Heart Foundation. The institute collaborates with the World Health Organisation (WHO) in training students in preventive cardiology. Padmavati, an elected fellow of the National Academy of Medical Sciences, was the first woman cardiologist in India in 1954 and established the first cardiac clinic and cardiac path lab in North India. She was the President of 5th World Congress of Cardiology, New Delhi (1966), and was awarded India's second highest civilian honour the *Padma Vibhushan* in 1992. Dr. Padmavati was born to a barrister in Burma (Myanmar). She had three brothers and two sisters. She received an MBBS degree from Rangoon Medical College, Rangoon and later moved to London in 1949, where she received an FRCP from Royal College of Physicians, London followed by FRCPE from Royal College of Physicians of Edinburgh. Here while working at hospitals like the National Heart Hospital, National Chest Hospital, and the National Hospital, Queen Square, London, she developed interest in cardiology. Subsequently, after finishing her FRCP, she moved to Sweden for three months, where she took cardiology courses at the Southern Hospital. Meanwhile, she applied for fellowship at the Johns Hopkins Hospital, Baltimore, part of Johns Hopkins University U.S., and was selected, and went on to study with the noted cardiologist Dr. Helen Taussig. In 1952, she joined Harvard Medical School (Harvard University), where she studied under Dr. Paul Dudley White, a pioneer in modern cardiology. Dr.S.I.Padmavati was also known as mother of cardiology. Unfortunately she died on 29th of August ,2020 after attaining the age of 103. Her demise is not only a national loss but also to all the members of cardiology and cardiothoracic Societies of India .May almighty keep her in heavenly abode and her soul in peace .

K.C. Verma

Foreword



I am honoured and delighted to write foreword for the book “**Practice of Cardiology With Current Diagnostic and Therapeutic Interventions**” by Professor K. C. Verma, MBBS. DCH. DM. (CARDIO) FRST & H (LOND) FCSI (GOLD MEDALIST) Senior Consultant Heart Specialist, formerly Prof. in Cardiovascular and Thoracic unit, Govt. Medical College and Hospital, Jammu (J&K). He has been an eminent medical teacher and astute clinician with more than 3 decades of experience in the field of Cardiology. With his deep knowledge of the subject, Prof. Verma has written a comprehensive, authoritative textbook in the field of cardiovascular medicine. This book covers all the aspects that are required by all those treating patients with cardiovascular diseases. I am sure this book would be very useful for the physicians and cardiologists.

Prof. (Dr) Sanjay Tyagi,

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New Delhi, India

Preface

When a physician completes his/her physical examination of the patient, he/she then tries to ponder over the tentative clinical diagnosis. Later, when he wants to establish a final diagnosis, he is bound to take the help of routine laboratory tests such as Hbgm%, Red and white cell counts along with their differentials, diabetic, lipid, renal, thyroid profiles, and BNP supplemented with directly targeted group of investigations namely, ECG, chest radiography, stress testing, echocardiography 24 hours ECG(Holter) and Blood pressure monitoring.

By the application of these above mentioned techniques, a tentative diagnosis is confirmed in about 90% of the cases. However, when in doubt, other specialised battery of non-invasive and invasive investigative techniques can be employed to clinch the diagnostic problem in rest of the patients under study.

During post-doctoral studies in cardiology (DM Cardiology), much stress is given in learning of both invasive, noninvasive and interventional therapeutic techniques and during DM examination, post graduate is always well judged as to how much knowledge he/she should possess in the learning of these techniques during his/her three years of residency training. Even later, a cardiologist is categorized according to experience of the number of invasive and therapeutic interventions he /she had with minimal period of clinical practice .

It is, therefore, very important for a physician/cardiologist to have thorough knowledge of practice and interpretation of these investigative techniques which usually percolates through the final objective of not only for establishing a correct diagnosis but also in the best management of the patient under investigation.

This book gives the comprehensive details of both non-invasive and invasive techniques not only for confirming the diagnosis but also depicts various catheter based methods in the management of heart problems. Such as newer mapping techniques in cardiac arrhythmias, coronary angioplasty, Transcatheter Occlusive Devices. In Congenital heart defects, Percutaneous technique in management of valvular heart defects with implantation of artificial AV valves and repairs, Technique of pericardiocentesis, artificial permanent cardiac pace-maker therapy and Trans-Telephonic Electro-cardiographic Monitoring (TTEM).

This manuscript besides, the above said techniques, also lucidly describes the other set of invasive and non-invasive investigations such as widely practised technique of coronary and pulmonary angiography, Intracardiac Electrophysiology Study (EPS).

For the last one decade or so, there have been tremendous advances in the field of investigative and minimal invasive cardiology and through this book, one may find the review of the latest emerging techniques of cardiac MRI and nuclear imaging, PET and SPECT in cardiovascular molecular imaging, Catheter-Based technique in Stem Cell Transplantation in heart Disease and Robotic technique in the management of heart diseases. Currently approved techniques in the management of chronic refractory angina pectoris and heart failure have been also reviewed .

This book with its present ingredients and format will be of immense help to the practising physicians/clinical and interventional cardiologists, cardiac fellows, post graduate students of both internal medicine and cardiology and act as treasure house of knowledge in investigative technologies. It would also enhance the comprehensive knowledge among the laboratory technicians and nursing graduate and post graduate medical students who may finally choose the classified subspecialties in the field of cardiovascular medicine.

(K. C. VERMA MD, DM)

Acknowledgement

I am indebted to the various scientific workers and research scholars whose names have been mentioned in respective chapter of bibliography and whose basic work became the foundation of each chapter of this book. I am also very grateful to my wife Dr (Mrs) Urmil Kanta Verma, formerly Prof. in the department of blood transfusion medicine and pathology for providing me a perfect congenial atmosphere and all material and moral support needed for writing such a voluminous book “**Practice of Cardiology with Current Diagnostic and Therapeutic Interventions**” I do appreciate the support of the concerned staff members of New Delhi Publishers for their timely help in repeated corrections in text and perfect designing, type setting, preparation of clear and lucid line diagrams and coloured tables which itself was a big challenging task in the final outcome of this manuscript.

To my grand children, Advita, Sidhant Leena, Meera and Deven.

Author

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