This specialized book on perioperative haemodynamic monitoring and goal-directed therapy is edited by two renowned experts in the field, and the contributors are mainly from Europe and the USA. The book attempts to address the philosophy that haemodynamic monitoring by itself is of no use and that the haemodynamic information should be used for the patient’s benefit. The main theme and focus of providing benefit to the patient revolves around manipulating haemodynamics by way of goal-directed therapy. This is based on the principle of providing enough oxygen to the tissues.

The book has been divided into four sections with a total of 32 chapters. The first section (four chapters) sets up the basis for goal-directed therapy by providing epidemiological data related to perioperative morbidity and mortality and defining the magnitude of perioperative problems. In addition, there is an apt depiction of the new trends in perioperative medicine, including the paradigm shift towards perioperative practice.

The second section (eight chapters) describes cardiovascular physiology, including the function of the heart as a pump, myocardial perfusion, blood pressure regulation, and haemoglobin function. In addition, volume management, vasopressors, and inotropes are also described. This particular section makes it amply clear how haemodynamic management is not merely managing the pump function of the heart, but should target tissue oxygenation.

The third section (nine chapters) is devoted to haemodynamic monitoring and starts with an integrated approach for haemodynamic monitoring using routine as well as minimally invasive advanced technologies for monitoring cardiac output and fluid responsiveness. This section also includes a very useful chapter on evaluation of the cardiac output monitor. This is a very well-written chapter describing the statistical methods used to test the agreement between different monitors used to measure cardiac output. The third section then goes on to describe the various semi-invasive and non-invasive haemodynamic monitoring systems that are currently available and how to make an appropriate choice of monitor in a given situation. Pulmonary artery catheter-based continuous cardiac output monitoring and transoesophageal echocardiography are conspicuously missing. Fluid responsiveness assessment, mixed venous oxygen saturation monitoring, non-invasive and continuous arterial pressure monitoring, and monitoring of the microcirculation are the other useful chapters in this section.

The fourth section (11 chapters) describes goal-directed haemodynamic optimization in the perioperative setting (including cardiac surgery), intensive care, emergency, and critical care settings. The various methods (fluid therapy, blood transfusion, and vasopressors), monitoring techniques, haemodynamic goals and the evidence for goal-directed therapy, the targets of goal-directed therapy, and the associated controversies are nicely covered in this section. Finally, the nurse perspectives of goal-directed therapy are also described.

Thus, the book provides excellent coverage on the subject of goal-directed therapy. It is well presented, not overly long, and makes reading very easy. The writing style is simple, brief, and succinct, accompanied by illustrations that are well presented. In summary, it provides an excellent overview of the topic and would well serve residents and consultants, especially those dealing with major surgery and intensive care scenarios.

The book is not without drawbacks, and I believe there are two major drawbacks. The first drawback is that the American College of Cardiologists/American Heart Association guidelines were revised, perhaps soon after the publication of the book in 2014; hence, the book continues to refer to the old 2007 guidelines. For instance, the newer guidelines now describe only two types of surgeries, low and elevated risk surgery (there is no intermediate risk surgery), and the newer tools of risk assessment created by American College of Surgeons: national surgical quality improvement program (NSQIP). The second drawback is that a significant amount of repetition could have been avoided by merging some of the chapters (e.g. chapters 24 and 27).

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