

## Book review: “Cardiovascular Disease and Laboratory Medicine”

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### REVIEWED BOOK

**“Cardiovascular Disease  
and Laboratory Medicine”**

by Martin Crook, John Chambers,  
and Phil Chowienzyk

Editors: Natlie Walsham and William Marshall

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### RECESSION

This slim text of 6 chapters is yet another title from the excellent series published by the Association for Clinical Biochemistry and Laboratory Medicine (ACB, UK).

The opening chapter rightly starts with a discussion of the risk factors of cardiovascular diseases (CVD) and their relative importance. There is a list of the emerging cardiovascular risk factor markers that are associated with inflammation, but most of these are not yet in clinical application. The authors do not make a recommendation of the most useful routine tests to assess the risk for CVD. It would have been helpful if C-reactive protein, a key risk factor, was discussed in a separate sub-section. The chapter also includes mention of non-laboratory techniques for assessing cardiovascular risk such as the ankle-brachia pulse index, B mode ultrasound, coronary artery calcification and magnetic resonance imaging.

A good part of this book is on the pathophysiology of CVD. While it is important for the understanding of the underlying changes in CVD upon which diagnostic tests are based, the reader would expect, from the title, an emphasis on the laboratory testing. The second chapter is mostly a description of the physiology,

metabolism and pathophysiology of the endothelium, haemostasis and thrombosis. It also deals with the clinical consequences and the diagnosis of thrombosis and its treatment. Other than D-dimer, there is little mention of the laboratory testing involved for these conditions.

Similarly, in Chapter 3, the reader is brought up to date on lipid metabolism, dyslipidaemias and their management and treatment. While this is welcome, the laboratory scientist cannot be blamed for feeling a little frustrated with the relatively inadequate treatment of the testing for dyslipidaemias. A short discussion on the analyses of various lipids and their inadequacies would have helped. Once again, the chapter does not have a separate heading for laboratory testing, which is instead lumped with metabolism and pathophysiology.

The discussion of blood pressure and hypertension in Chapter 4 follows the pattern of the two preceding chapters. There is much material here which could have been safely deleted and replaced with more information on the laboratory testing. This chapter reflects more the clinical aspects of hypertension than the laboratory aspects. One is tempted to question the relevance of the inclusion of information on blood pressure measurements. Only about a page and a third is devoted to the laboratory assessment of hypertension but 4 full pages to drug treatment. This is a lop-sided emphasis of information that is less relevant to the laboratory scientist or doctor.

The authors would have done well in these chapters to follow the tone of Chapter 5, which deals with chest pain, including acute coronary

syndromes (ACS). It describes the reasons for acute and chronic chest pains and the use of biomarkers in ACS. The interpretation of cardiac troponins levels for the diagnosis of different types myocardial infarction is discussed in excellent detail. The chapter also discusses the use of biomarkers such as fibrin degradations products in pulmonary embolism and aortic dissection. It elegantly describes the diagnosis of these conditions using biomarkers in conjunction with imaging and clinical parameters to arrive at a diagnosis.

The last chapter on cardiac failure deals with the pros and cons of the use of brain natriuretic peptide (BNP) in detail. As with the previous chapter, there is good interpretative information here. The authors speculate that multiple biomarkers will eventually be used to assess risk and guide management of heart failure.

Since some of the many abbreviations used in the book are not well known, having them listed with their full forms would have been helpful. It is odd that pages 30 and 64 are left blank. And, on page 91, there a probably typographical error where it states "six mRNAs" when the paragraph seems to imply "six MiRNAs" (micro RNAs), which is something quite different.

While the book does well to convey current knowledge, it does not live up to the expectation of the reader from the title. Throughout, greater emphasis should had been given to the laboratory tests, with separate sub-headings. Or perhaps, more accurately, the title should have read, "Cardiovascular Disease - Pathophysiology and Laboratory Medicine"!