

Preface

Huge steps have been made in cardiovascular stem cell transplantation over the past decade. Basic scientists, interventional cardiologists, as well as cardiac surgeons have coordinated their efforts to further investigate the potential therapeutic value of stem cells in ischaemic heart disease. Although we may have moved from terms such as ‘regeneration’ towards the more widely accepted ‘repair’, it is evident that majority of scientific queries remain to be addressed.

This book is an attempt to encompass contributions spanning at various levels of stem cell research from bench top and bedside. Insight regarding the different stem cell types in experimental and clinical trials accounts for a significant part of this book. In addition, we have incorporated a group of basic science papers deciphering various mechanisms of stem cell function in cardiac studies. The role for stem cell therapy in heart valve disease, gene therapy, and bioengineering is also been discussed. At last, we have integrated a chapter on ‘bioprocessing’ in an attempt to make more transparent the potential of this tool in cardiac stem cell research.

Inarguably clinicians have acquired the procedural know-how of cell delivery and subsequent assessment of cardiac performance. As adult stem cell subpopulations and embryonic stem cells will be entering the clinical arena in the maybe not so distant future, this knowledge will prove invaluable in their clinical assessment. Hopefully, cardiac stem cell research and ultimately therapy will provide an additional strategy for the treatment of ischaemic heart disease.

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