Introduction

INTRODUCTION

Cardiac surgery has developed at a rapid pace since the first procedures in the 1920s. Driven by trauma innovations during the post-war period, the specialty has seen a massive expansion in the range and complexity of conditions treated. Initially thought to be inoperable, surgery for both acquired and congenital heart disease is now commonplace. There are a variety of techniques to address both ischaemic heart disease (IHD) and valvular disease. These ar e often performed in con junction with cardiology colleagues, and minimally invasive approaches are now complementary to surgical techniques. Surgical correction of congenital defects has given rise to a specialty in its own right, and many patients who would pr viously have succumbed to heart disease in infancy now have normal life expectancy . In addition, there are a range of allied technologies that are improving the survival of both adult and paediatric patients undergoing car diac surgery . Transplantation, mechanical assistance devices and extracor poreal circuits are continuing to have improved outcomes and ensure that cardiac surgery is becoming accessible to more patients than ever. Introduction

- Before the 1950s, surgical attempts to treat CAD through grafting of non-coronary flow to the myocardium was via peri - cardial or omental adhesions, with limited success. From the - 1960s onwards, the importance of aortocoronary saphenous vein grafts and the value of the internal mammary (internal thoracic) artery were incr easingly recognised. Outcomes of CABG surgery were carefully scrutinised and, by the 1970s, multiple large, prospectively randomised, multicentre trials were conducted. All trials showed that a subset of patients had - improved survival after surgery , compared with other treat - ments. With the advent of percutaneous coronary intervention (PCI) in the 1980s, the patient population undergoing CABG has changed, becoming progressively sicker but often with the most to gain. Over the last decade, there have been major adv ances in PCI, including the use of several generations of drug-eluting stents, as well as biodegradable stents, in an attempt to reduce restenosis. Although the role of CABG in - the treatment of IHD has been questioned, several multicentre randomised trials carried out comparing CABG with PCI with he drug-eluting stents have clearly shown that CABG remains the gold standard operation in certain groups of patients, such as those with left main stem disease, three-vessel coronary disease, diabetes or those at high risk. - Summary box 59.2 Potential complications of CPB /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF - /uni25CF /uni25CF /uni25CF

Coagulopathy Myocardial depression Infection Neurological dysfunction Air embolism Postcardiotomy syndrome (similar to Dressler’s) Gastrointestinal complications (bowel and Pulmonary injury liver ischaemia/pancreatitis) Systemic organ dysfunction Microembolisation (eyes, Vascular injury brain)

Superior vena cava Left coronary artery Branch to Left atrium sinoatrial Left atrial node branch Right atrial branch Cir Right Left atrium marginal branch Right coronary artery Diagonal branches Right Left marginal Left anterior ventricle branch Apex descending artery Figure 59.2 The heart, showing the distribution of the left and right coronary arteries. matic surface of the heart.

Revision #1
Created 2025-12-31 15:22:11 UTC by Omar Ayman
Updated 2025-12-31 15:22:11 UTC by Omar Ayman