We are IntechOpen, the first native scientific publisher of Open Access books

3,350 Open access books available 108,000 International authors and editors 1.7 M Downloads

151 Countries delivered to TOP 1% Our authors are among the most cited scientists 12.2% Contributors from top 500 universities

WEB OF SCIENCE™
Selection of our books indexed in the Book Citation Index in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com
Coronary Angiography

Azarisman Mohd Shah

Additional information is available at the end of the chapter
http://dx.doi.org/10.5772/54043

1. Introduction

Our understanding of the concept of cardiac anatomy and physiology has been greatly enhanced in the last 70 years due to tremendous advances in the field of cardiac catheterization. Cardiac catheterization was first performed methodically and with careful application of scientific methods, by Claude Bernard in 1844. He entered both the left and right ventricles of a horse through the retrograde approach via the carotid artery and jugular vein.[1] This led to a period of intense investigation into the cardiac physiology of animals.

Figure 1. The first fluoroscopic guided view of the right heart catheterization. Klin Wochenschr 1929; 8:2085-87. Springer-Verlag, Berlin, Heidelberg, New York.
The next step into investigating human physiology was aided greatly by Werner Forssmann who performed the first cardiac catheterization on a living person, having passed a 65 cm catheter through his left antecubital vein and into his right atrium under fluoroscopic guidance in 1929 (Figure 1).[2] Further development in selective coronary arteriography was generated by Sones and others by 1959 with greater emphasis on better catheterization techniques, improved radiographic images and less toxic radio-contrast agents. Cumulatively, these developments led to marked improvement in the adoption of cardiac catheterization as an important diagnostic tool.

Andreas Grützig then heralded the next great step in cardiac catheterization when he introduced balloon angioplasty of the coronary arteries in 1977.[3,5] This led to the mushrooming of cardiac catheterization into the new field of interventional cardiology with ever expanding indications and improved results.[6]

2. Coronary angiographic views

Accurate diagnosis of a coronary stenosis is dependent on acquiring multiple views to enable accurate visualization of all the coronary segments without foreshortening or overlap. This is achieved by maneuvering the image intensifier into the right and left anterior oblique planes and either the cranial or caudal projections as is seen in Figures 2 and 3 below.

**Figure 2.** The right and left anterior oblique planes corresponding to the planes of the AV valves and the interventricular septum respectively.
Figure 3. The cranial and caudal projections which when combined with the oblique planes, ensures the capture of most normal segments.

3. Viewing the LAD and LCx

Figure 4.
4. Viewing the RCA

![RCA Images]

Figure 5.

Author details

Azarisman Mohd Shah
Department of Internal Medicine, Faculty of Medicine, International Islamic University Malaysia, Pahang, Malaysia

References


