Cardiac catheterization in Sudan; Past, Present and future

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Introduction

Cardiac catheterization is one of the most commonly performed procedures in medical practice. Millions have been performed worldwide with low overall complications rates. The first cardiac catheterization performed in Sudan was in January 1976. The service continued till 1988 and stopped due to financial constraints and loss of trained technical staff to the Gulf states. By the turn of this century cardiac catheterization was resumed in Sudan primarily in the main cardiac centers of Sudan Heart Center, Ahmed Gasim Hospital and AlShab Teaching Hospital as well as other public and private centers. No documentation and analysis of this experience in Sudan has been so far.

Objectives

To review available data on the number and types of procedures performed in cardiac catheterization labs in Sudan. For coronary procedures, diagnostic coronary angiograms (CAG) compared to percutaneous coronary interventions were studied. Use of bare metal stents (BMS) compared Drug-eluting stents (DES) was also studied at AlShab Teaching Hospital.

Methods

Data were obtained directly from cath lab diretors at AlShab Teaching Hospital, Ahmed Gasim Hospital, Sudan heart Center, Mawada hospital and Zaitona hospital.

Results

Total of 16894 procedures in the cath lab performed from 2000 in all involved centers. CAGs were 72%, permanent pacemakers (PPMs) 15%, percutaneous mitral valvotomies (PTMC) 8%, and others including peripheral vascular and pediatric catheterizations. 12256 CAGs were performed with subsequent 2883 PCIs making the ratio of PCI:CAG 0.23. In 2011 DES usage at AlShab hospital was 40% of all PCIs and Cobalt/Chromium stents were 97% of BMS.311 permanent pacemakers were implanted in 2011.

Conclusion

Large number of cardiac catheterization procedures have been performed mostly CAG and PCI. PCI:CAG rate is lower than international data with DES rates comparable to other similar income countries but lower than Western countries.PPM implantation rates remain comparatively low and peripheral interventions rates very small.

Numerous challenges exist including relative high cost of procedures compared to income, securing steady flow of supplies , lack of regular maintenance resulting in long breakdown periods, effect of embargo

on acquiring certain items, lack of long-term registry data and absence of data on appropriateness, cost-effectiveness and outcome of cardiac catheterization procedures.