# *COMBINED ANTEGRADE AND INDIRECT RETROGRADE CARDIOPLEGIA IN MITRAL VALVE REPLACEMENT*

A THESIS SUBMITTED FOR THE PARTIAL FULFILLMENT OF THE MASTER DEGREE IN GENERAL SURGERY



BY

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UNDER SUPERVISION OF

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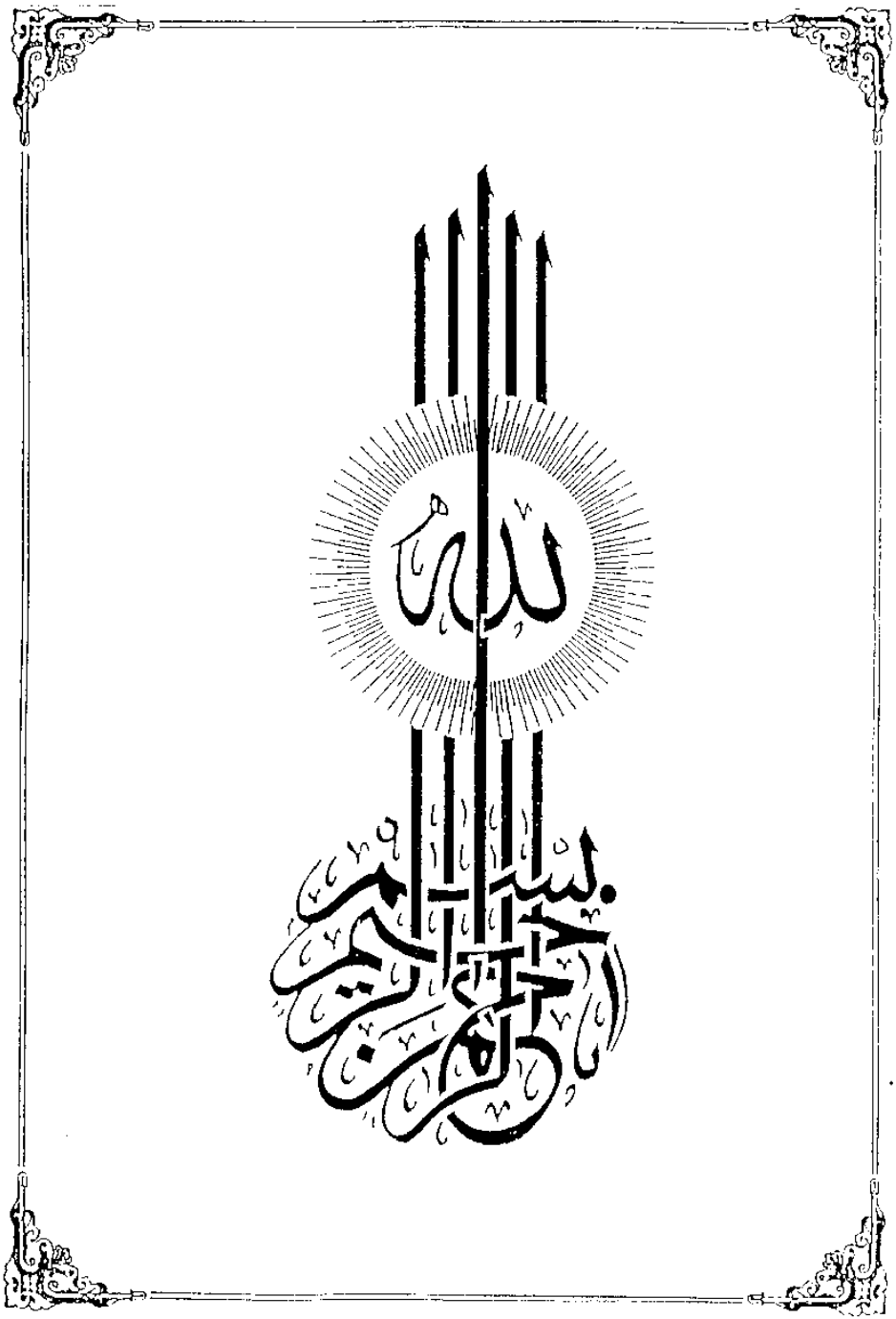

بسم الله الرحمن الرحيم

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***Hassam Eldin Ashour***

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## Introduction and aim of the work

Among different methods for myocardial preservation during open heart surgery, myocardial arrest and hypothermia are the most important items, and this can be achieved by infusion of cold high K content cardioplegic solution , which should be adequately distributed to all myocardial segments in a safe, simple and rapid fashion.( Buckberg 1989).

The method known as antegrade cardioplegia via the aortic root has many disadvantages especially inadequate distribution in proximal coronary artery stenosis (Gundy and Kirsh, 1984) so to avoid limitations and complications of antegrade cardioplegia , retrograde coronary sinus perfusion RCSP was used as an alternative way(Buckberg 1989).

Advantages of RCSP over the antegrade method include the ability to infuse cardioplegic solution continuously with prolonged maintenance of hypothermia and cardiac arrest without interrupting the continuity of other procedures also the complications of coronary osteal cannulation such as; coronary artery dissection and post cannulation osteal stenosis, can be avoided. another advantage is the adequate preservation of areas distal to coronary stenosis in cases of coronary artery bypass surgery( Fabiani et al., 1986 ) In re-do operations for coronary artery disease, RCSP has been used to prevent the embolization of atheromatous material from the diseased vessels into the distal coronary arteries( Synder et al., 1988).

But retrograde coronary sinus perfusion RCSP still has its own complications such as coronary sinus injury and lack of perfusion to the thebessian veins, so an indirect retrograde method via the right atrium is said to be more easier and safer than direct retrograde method ( Fabiani JM . and Carpentier AF 1983).

This study is a prospective clinical study designed to assess and compare the use of combined antegrade and indirect retrograde cardioplegia versus antegrade cardioplegia in providing myocardial preservation during mitral valve replacement surgery using clinical, hemodynamic, echocardiographic parameters.