

## **SUMMARY**

The discovery that a patient scheduled for anaesthesia and surgery is one of the high risk population with coronary artery disease has become an everyday happening in the life of anaesthetists. The significance of this issue is that these patients are vulnerable to considerable haemodynamic and catecholamine changes jeopardizing their delicate myocardial supply/demand balance when undergoing anaesthesia and surgery.

An appreciation of the normal blood supply to the myocardium, together with the physiologic variables influencing it, is essential to the understanding of the pathophysiology of myocardial ischaemia especially the issue of myocardial supply/demand ratio and factors affecting it. A disturbance of this delicate balance might endanger the patient of developing ischaemia in relation to anaesthesia and surgery. In patients who had developed myocardial infarction, a time chance must be allowed for the myocardium to develop proper collateral circulation as well as proper healing of the infarcted area. Thus, elective procedures should be delayed for at least 6 months following an infarction, and hypoxia or cardiovascular instability should be avoided during anaesthesia and postoperatively.

Preoperative evaluation of the patient should point out the risk factors that might interfere with a smooth anaesthesia either in the intraoperative or postoperative period. Points that should be assessed thoroughly include the presence of an interval from a previous myocardial infarction, cardiac reserve, congestive heart failure, angina pectoris, preoperative hypertension, diabetes mellitus and lastly the site and

type of surgery and its anticipated duration. Other aspects of the preoperative preparation of the patient should include the estimation of the patient's cardiac performance together with treatment of any noncardiac disease to prepare the patient in the best possible condition to withstand the perioperative period. For patients with CAD requiring anaesthesia for a noncardiac procedure or for CABG, premedication should aim at abolishing anxiety with its deleterious haemodynamic effects putting in mind the patient's cardiac performance and its affection by the drugs used for premedication.

Induction and maintenance of anaesthesia should be carried out with techniques that are least hazardous to the haemodynamic stability of the patient. The use of non-narcotic i.v. anaesthetics, narcotic anaesthetics and/or inhaled anaesthetics for induction and maintenance of anaesthesia in such patients should be balanced and guided by the patient's left ventricular function as well as the circulatory pharmacodynamics of the agent used. Also, choice of muscle relaxants should be guided by their haemodynamic effects to avoid any increase in oxygen demand caused by the non preferred effects of muscle relaxants such as tachycardia, hypotension or hypertension.

Regional anaesthesia is recommended for operations of the extremities, transurethral prostatic resection, ophthalmic procedures as well as for emergency procedures following a recent myocardial infarction provided that these regional techniques are handled by an expert anaesthetist.

The postoperative period can be stressful, due to the onset of pain during