Summary

Summary

Ischemic heart disease, which reflects the presence of atherosclerosis in coronary arteries is present in an estimated 30% of patients who undergo surgery annually in the Untied States.

Angina pectoris, acute myocardial infarction, and sudden death are often the first manifestations of ischemic heart disease. Cardiac dysrhythmias are probably the major cause of sudden death in patients with ischemic heart disease.

The goal of preoperative cardiac assessment is to identify patients at increased risk for adverse perioperative cardiac events including myocardial infarction. In this regard, perioperative MI can be precipitated by increase in myocardial oxygen consumption, alteration in coagulation that precipitate thrombosis, intraoperative and postoperative stress responses are important determinants of perioperative cardiac morbidity.

No single test can assess all these factores. Specialized perioperative testing includes electrocardiography, echocardiography, radionuclide ventriculorgapy and thallium scintography. These non invasive testing should be reserved for patients in whom the results are critical for guiding therapy. In patients with coronary artery disease who show strongly positive results on non invasive test, a possible recommendation is coronary revascularization prior to surgery.

Intraoperative anesthetic technique utilized should permit modulation to sympathetic nervous system responses and prompt control of hemodynamic variable persistent tachycardia, systolic hypertension,

arterial hypoxemia and diastolic hypotension can adversely influence the myocardial oxygen delivery/requirement balance.

Perhaps the most reliable indicator of adverse postoperative cardiac events in patient undergoing non cardiac surgery is myocardial ischemia during the first 48 hours following surgery. It's possible that the post operative outcome can be improved by monitoring and treating patients who are known to be at increased risk.

Improvements in our management of these patients appear to be reducing perioperative cardiac morbidity to the point where other organ system dysfunction may be responsible for the majority of in-hospital deaths. If this is true, then we are truly making remarkable strides.

At present, there are rapid changes in the understanding of the pathogenesis of coronary artery disease. This may lead to more widespread primary and secondary prevention (cholesterol reduction, treatment of chronic infections) and more aggressive and better revascularization percutaneous transluminal coroanry angiaplasty (PTCA/stents). These factors might reduce perioperative cardiac complications. Alternatively, patients previously considered "too sick" for surgery will present to our ORs (for outpatient procedures, no less!). Future improvements in preventing cardiac deterioration after non-cardiac surgery may involve modulation of the adrenergic response (alpha2 agonists, intensive analgesia) and the coagulation system. The key will be to identify cost-effective strategies that improve outcome and to identify patients most likely to benefit.