The Victorian Surgical Consultative Council

Use of transoesophageal echocardiography in cardiac surgery

Over the past few years the Victorian Surgical Consultative Council (VSCC) has received reports of complications arising from the use of transoesophageal echocardiography (TOE) in cardiac surgery.

The issue was referred to the Victorian Consultative Council on Anaesthetic Mortality and Morbidity (VCCAMM), whose detailed study on the matter is briefly summarised here. The work was published in the Journal of Cardiothoracic and Vascular Anaesthesia (reference listed below).

Conclusion from VCCAMM:

A handful of international studies had defined the incidence of TOE-related complications as very low, of the order of 3-4 per 10,000 cases. Using the Australian Society of Cardiac and Thoracic Surgeons database between 2001 and 2007 financial years, the authors sought to define the local incidence and outcome from major oesophageal injury (tear or perforation) related to the intraoperative use of TOE, and assess any possible risk factors, such as age or sex.

The above figure summarises the key findings. Overall, the incidence of TOE-related complications was: 9 per 10,000, with a mortality rate of 2 per 10,000.

Patients aged over 70 years had a relative risk of 3.7 compared to those under 70 (95% CI 1.2-11.7).

Women had a relative risk of 6.5 compared to men (95% CI 2.0-21.1).

Women over 70 had a relative risk of 22 compared to men under 70 (95% CI 2-182).

It was concluded that older patients, particularly women, have a substantially greater risk of TOE-related injury. Therefore in this group of patients the use of TOE during cardiac surgical procedures should be not be routine. The operator should also be cognisant of the contraindications for TOE as listed in the JASE guidelines (below), in particular the presence significant oesophageal disease.

References:


VSCC Re-approved: May 2014

VSCC Guidelines / Practice Statements are intended to provide some broad statements of principle to facilitate the improvement and safety of surgical practice. They are not legally binding, nor do they provide a comprehensive analysis of every situation.