In this issue of the EJCTS, Porizka and co-workers explore whether cardiopulmonary bypass (CPB) in conscious patients is feasible using standard blood flow rates [1]. This publication is certainly provocative and raises a number of questions.

Since the early days of cardiac surgery and CPB, our speciality has made enormous progress in alleviating suffering and saving lives of increasingly sicker patients. The latest EACTS Adult Cardiac Surgical Database Report revealed that the average mortality for cardiac surgery in Europe is about 3–4% [2]. Surgical innovation based on ethical considerations is important to advance our current clinical practice [3]. Alternative treatment options may become available in situations where the patient is deemed unfit for conventional surgery or conventional anaesthesia. The latest addition to our armamentarium is transcatheter aortic and mitral valve treatment.

Before fast-track recovery following cardiac surgery became commonplace, the role of thoracic epidural anaesthesia was explored to facilitate earlier extubation and better pain relief. This was logical in the days before inhalational anaesthetic agents and short-acting narcotics. Adding a thoracic epidural to a general anaesthetic has been shown to be beneficial in coronary surgery [4]. Thoracic epidurals increase coronary perfusion and improve pulmonary function [5].

The safety of thoracic epidural anaesthesia under these circumstances has been a matter of concern. Coronary surgery is usually performed in patients on platelet-active medication and heparin is required during surgery. This may increase the risk of epidural haematoma formation, a feared complication that may lead to permanent neurologic damage. In a recent review, Royse stated that thoracic epidural anaesthesia is safe in patients undergoing cardiac surgery. It appears that the risk of epidural haematoma is about 1 in 12,000, which according to the author is similar to non-cardiac surgery [6]. However, other authors suggest a lower incidence of epidural haematoma in non-cardiac surgery [7].

Thoracic epidural anaesthesia without general anaesthesia in conscious patients has been performed in a small number of cardiac surgical procedures, mostly in off-pump coronary artery bypass (OPCAB) surgery. The largest series is described by Karagoz and co-workers, who reviewed 131 patients undergoing conscious cardiac surgery [8]. The proposed advantage of surgery in the conscious patient is a more rapid recovery from surgery, allowing the patient to be sent home on the day of surgery in some cases. Moreover, it was suggested that patients with severe chronic obstructive airway disease would benefit from this approach. However, these hypotheses are largely unproven. By contrast, conscious cardiac surgery has been criticised sharply for introducing additional risks [9].

Individual case reports of cardiac procedures with CPB in conscious patients have been published. The publication by Porizka and co-workers is the first to take a systematic approach. Potential advantages for the patients undergoing such procedures are undocumented at best. It seems difficult to conceive that consciousness offers decisive advantages over modern i.v. anaesthetic agents (in the hands of trained anaesthetists) and short-acting opioids.

Porizka and co-workers showed us that CPB in conscious patients can be done. However, it is highly debatable whether it should be done.

References


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Available online 15 January 2011