

## Poster Presentations

### CORONARY ARTERY BYPASS GRAFTING IN THE AWAKE PATIENT USING A HIGH THORACIC EPIDURAL ANESTHESIA: CAN WE ALSO BYPASS THE CARDIOSURGICAL ICU?

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**Background:** Thoracic epidural anaesthesia (TEA) has been used very effectively as an adjunct to general anesthesia in providing excellent conditions for off-pump coronary artery bypass surgery by dilating the coronary arteries and by reducing heart rate and arrhythmias during manipulation of the heart. There exists only one report using TEA without intubation in patients undergoing coronary artery bypass surgery (1). We compared our first results of awake coronary artery bypass grafting (ACAB) with a standard technique using combined thoracic epidural anesthesia (TEA) and general anesthesia (GA).

**Methods:** With IRB approval 50 patients underwent totally arterial myocardial revascularisation through a partial lower mini sternotomy or a complete median sternotomy receiving either a TEA only (TEA-group; n=25) or a combined TEA and GA (GA-group; n=25). At least 2 hours prior to surgery an epidural catheter was inserted at the T1/2 or T2/3 level, respectively. An infusion of ropivacaine 0.5% with sufentanil 1.6 µg/ml was started until a sensory level of C4-C5 was achieved. The awake patients breathed 5l O<sub>2</sub> via a face mask. In the general anesthesia group patients received a total intravenous anesthesia with propofol, remifentanyl and cisatracurium. Monitors included an arterial line, EKG and end-tidal CO<sub>2</sub>. In addition to clinical outcomes visual analogue scale (VAS) pain score was recorded.

**Results:** Groups were comparable regarding demographic data, comorbidity, NYHA status, ejection fraction. In the TEA-group 22 patients remained awake and spontaneously breathing throughout the whole procedure. 3 patients required secondary intubation due to incomplete analgesia (n=1) or pneumothorax (n=2). No significant hypercarbia occurred in the TEA-group. 11 of 25 of the GA-patients were extubated in the OR, the other patients were extubated within 1.5±1.8h. In GA-group intensive care unit stay amounted to 15.1±9.1 hours, while all TEA-patients were admitted to the intermediate care unit for 4.5±0.6h. In both groups there was one case with graft stenosis at predischARGE angiogram. Early postoperative pain was low in both groups < 40 on the VAS. All patients rated TEA as „good“ or „excellent“. Complications associated with TEA were not observed.

**Conclusion:** The present data show the feasibility and safety of surgical coronary revascularisation without general anesthesia. Surprisingly the ACAB procedure was well accepted by the patients. We could demonstrate that the sole use of TEA for CABG produced good results. Nonetheless, randomized controlled trials in large cohorts are mandatory to definitively evaluate the role of TEA without general anesthesia in cardiac surgery.

**Reference:** (1) Karagoz H et al. Ann Thorac Surg 2000; 70:91