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ABSTRACTS

ORAL PRESENTATIONS

APNEIC OXYGENATION AS AN INNOVATIVE TECHNIQUE OF RESPIRATORY SUPPORT IN RECONSTRUCTIVE TRACHEAL SURGERY

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Background and Aim. Trachea-bronchial surgery makes anaesthesiologist apply different respiratory techniques during resection and reconstruction of airways. Recently a technique of apneic oxygenation (AO) becomes popular among anaesthesiologists. But there is no common decision about the safe duration of the use of the technique. The aim of the study was to study the changes of gases and acid-base balance of arterial blood and parameters of haemodynamics in patients undergoing tracheal reconstructive surgery with application of AO for different duration.

Materials and Methods. A total of 25 patients requiring reconstructive surgery on trachea were included in the study. Apneic oxygenation was applied as a respiratory technique on the main phase of operation of resection and reconstruction of the trachea. Oxygen flow (FiO2 = 1, 12 L/min) was administrated in the caudal part of trachea via catheter (Ø14 Fr.). Before the beginning of AO, all patients underwent convential ventilation (CV). AO was started after 15 min of hyperoxygenation (FiO2 = 1). The duration of the AO applying was from 10 to 40 min due to surgical need. After the ending of the main phase of the tracheal reconstruction, patients were ventilated conventionally via endotracheal tube (FiO2 = 0.5). Pa)2, PaCO2, pH in the radial artery, invasive arterial pressure (IAP), heart rate (HR) and ECG data were fixed before, in 10, 20, 30 and 40 min of the AO applying and 20 min after the reconnection to conventional ventilation.

Results. In 5 min of CV with FiO2 = 1 the parameters of gases and acid-base balance of arterial blood were (N = 25) - PaO2 250.5 ± 124 mmHg, PaCO2 38.26 ± 3.06 mmHg, pH 7.41 ± 0.04. During AO - PaO2 298.3 ± 135 mmHg, PaCO2 63.44 ± 13.0 mmHg, pH 7.24 ± 0.07 in 10 min of AO (N = 19); PaO2 324.2 ± 136 mmHg, PaCO2 73.69 ± 12.0 mmHg, pH 7.19 ± 0.05 in 20 min of AO (N = 22); PaO2 319 ± 126.2 mmHg, PaCO2 81.85 ± 6.39 mmHg, pH 7.17 ± 0.06 in 30 min of AO (N = 6); and PaO2 355 ± 133.5 mmHg, PaCO2 94.83 ± 16.7 mmHg, pH 7.1 ± 0.06, in 40 min of AO (N = 4). In 20 min after reconnection to the conventional ventilation with FiO2 = 0.5 the parameters were (N = 25) - PaO2 202.2 ± 79 mmHg, PaCO2 43.36 ± 8.1 mmHg, pH 7.35 ± 0.05. The parameters of IAP, HR and ECG data were normal and stable during all types of ventilation.

Conclusions. AO in tracheal surgery is accompanied with a progressively increasing of hypercapnic acidosis and provides a high level of blood oxygenation. The acidosis due to AO is completely reversible in 20 min after reconnection to the CV and does not cause haemodynamic disturbances.

PAIN MANAGEMENT SPECIFIC CHARACTER IN THE INTENSIVE CARE UNIT FOR PATIENTS AFTER TRANSAPICAL TRANSCATHETER AORTIC VALVE IMPLANTATION

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Background and Aim. Non-invasive aortic valve implantation was introduced in the global clinical practice since 2002; this practice includes transapical transcatheter aortic valve implantation (TA-TAVI). The method is applied for high-risk patients with severe symptomatic aortic valve stenosis. This is an alternative method for elderly patients with significant co-morbidities and a high risk of conventional cardiac surgery. TA-TAVI has been performed in Latvia since 30 September 2009. Postoperative pain management is one of the main directions in postoperative patient care. The most common pain management methods are intravenous analgesia with opioids and paravertebral anaesthesia. The aim of the study was to determine the efficiency of paravertebral anaesthesia in patients after TA-TAVI, as compared with intravenous analgesia.

Materials and Methods. TA-TAVI has been performed in the Latvian Centre of Cardiology of Pauls Stradiņš Clinical