

## 8. SUMMARY

### SUREVENT™ AUTOMATIC VENTILATOR USE FOR THE TRANSPORT OF THE PATIENTS WHO HAD UNDERGONE OPEN HEART SURGERY

**Objective:** To investigate whether Surevent™ Automatic Ventilator could be safely used or not for the transport of the patients who had undergone open heart surgery to intensive care unit (ICU) and to compare this equipment with manual ventilator (Ambu®).

**Methods:** The study included 50 patients greater than 18 years old, that would be transported intubated to ICU after open heart surgery. The patients had left ventricle ejection fraction > 30 % and FEV1 / FVC value > 40 %. The patients were randomized to two groups according to the ventilation method that would be used during the transport as, the patients that would be transported with manual ventilation (Group MV, n= 25) or Surevent™ Automatic Ventilator (Group OTV, n= 25). Arterial blood gas testing was performed five times for each patient before the induction (T0), during intraoperative period (T1), before the transport to the ICU (T2), after the transport to the ICU (T3), at 20 minutes after the transport to the ICU (T4). Hemodynamic variables were recorded at the same time that pH, PaO<sub>2</sub>, PaO<sub>2</sub>/FiO<sub>2</sub>, PaCO<sub>2</sub>, BE and SaO<sub>2</sub> values were recorded.

**Results:** While there were no significant differences between the two groups according to PaO<sub>2</sub> values measured during the preoperative, intraoperative periods and before the transport, the PaO<sub>2</sub> values of group OTV was significantly greater than group MV postoperatively after the transport to the ICU (p= 0,002). PaO<sub>2</sub> values at 20 minutes after the transport to the ICU were not different between the two groups. While PaO<sub>2</sub>/FiO<sub>2</sub> ratio was not significantly different between the two groups for all time periods, in both groups the PaO<sub>2</sub>/ FiO<sub>2</sub> ratio after the transport was significantly greater than the PaO<sub>2</sub>/ FiO<sub>2</sub> ratio before the transport.

**Conclusion:** Surevent™ Automatic Ventilator can be used for a short period for the transport of the patients after open heart surgery and we observed no significant difference when compared with manual ventilation.

**Key Words:** Open heart surgery, cardiopulmonary bypass, Surevent™ Automatic Ventilator, manual ventilation, Ambu®, critically ill patient transport.

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