ACUTE EFFECTS OF LOBECTOMY ON RIGHT VENTRICULAR EJECTION FRACTION AND MIXED VENOUS OXYGEN SATURATION

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Background: Traditional methods of assessing the operative risk for lung resection provide only a modest ability to predict postoperative morbidity and mortality. The aim of this study was to evaluate the effect of lobectomy on pulmonary hemodynamic and gas exchange variables using the RV thermodilution ejection fraction/oximetric catheter.

Methods: We evaluated the acute postoperative effects of lung resection on hemodynamic and gas exchange parameters in 30 patients. Anesthesia was induced with thiopentone sodium and maintained with midazolam, fentanyl and pipecuronium. Intubation was performed with a double-lumen, left-sided endobronchial tube for one lung ventilation. The hemodynamic and gas exchange parameters were recorded before and after induction of anesthesia, and two hours after lung resection. These parameters were also recorded after the classification of the patients according to the underlying lung pathology.

Results: Lobectomy was associated with significant hemodynamic changes and good maintenance of gas exchange variables. SVI, LVSWI and RVEF were significantly decreased in the early postoperative period after lung resection. MPAP, COP, CI, SVRI, PVRI, RVSWI, and RVEDVI showed no significant changes during the perioperative period. SVO2 showed a significant increase after lung resection when compared with preinduction values, while VO2 significantly decreased. SaO2, a-A PO2, QS-QT, DO2, and O2ER showed no significant changes during the perioperative period.

Conclusions: We conclude that in the acute post-resection period (up to 2 hours postoperatively) there is right and left ventricular dysfunction with good maintenance of gas exchange.