

## THE IMPACT OF SOLUBLE INTERLEUKIN-2 RECEPTOR AS A BIOMARKER OF DELIRIUM

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**Introduction:** Much speaks in favour of searches for biomarkers that might help to predict the emergence of delirium. Advance warning of the threats of this condition could potentially reduce significant morbidity, mortality, and costs of hospitalising patients.

**Aims:** Our prospective study investigates for the first time the impact of soluble interleukin-2 receptor (sIL-2R) as a biomarker of delirium after cardiac surgery with cardiopulmonary bypass (CPB).

**Methods:** 34 patients who underwent elective CPB at the Department of Cardiac Surgery, Ludwig-Maximilians-University of Munich, Germany, were enrolled. During the ICU stay and after discharge from the ICU, the delirious state was evaluated daily using the Delirium-Rating-Scale (DRS) by P. T. Trzepacz. sIL-2R was assayed before CPB, 24 h postoperatively and on the day before discharge.

**Results:** After the CPB, 11 patients (32.4%) developed delirium. During the study period the sIL-2R level decreased at 24h postoperatively and increased afterwards. In the subgroup of patients with a postoperative delirious state longer than 24 hours the sIL-2R level is statistically significantly elevated 24h postoperatively in comparison with CPB-patients without a postoperative delirious state. Furthermore, as shown by a Spearman's rank correlation, CPB patients with higher Delirium-Rating-Scale scores 72h, 96h and 120h postoperatively had significant higher sIL-2R levels 24h postoperatively.

**Conclusions:** High levels of sIL-2R appear to be a useful biomarker to identify patients with high risk of delirious state.