

Category :**Sedation - analgesia**

**A177 - Dynamics of blood cytokines in neurosurgical patients under conditions of sedation-analgesia with opioids and alpha-2-adrenoagonists**

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**Introduction:**

The clinical significance of the inflammatory response in patients with brain tumors operated under general anesthesia is of interest. Postoperative delirium and postoperative cognitive impairment are associated with the intensity of the systemic inflammatory response and neuroinflammation.

**Methods:**

217 patients (74 (34.10%) - men and 143 – women) operated for brain tumors.

Anesthesia: propofol to a 3.5-6 mg/kg-hr, fentanyl 1 – the 2.8 mcg/kg-hr, clonidine 0.4-0.7 mcg/kg-hr or dexmedetomidine 0.2-0.5 mcg/kg-hr. We analysed cytokine levels (IL-8, IL-6, IL-10, TNF) at the four times: before induction, after induction, after elimination of the tumor (hemostasis) and the first day after surgery.

**Results:**

On the first postoperative day, IL6 values were on average eight times higher than the average IL6 values during other stages of the study. For IL8 and IL10, the highest average value is achieved at the stage of hemostasis, while the value of IL8 is on average one and a half times higher, and the value of IL10 is four times higher

**Conclusion:**

When analyzing the concentrations of pro-inflammatory and anti-inflammatory interleukins, depending on the stage of the perioperative period, the balance of their changes is shown.

Pharmacological effect on the opioid and alpha-2-adrenergic systems of the brain provides modulation of the response to stress;

**Table:**

	I	II	III	IV
IL8, pg/ml	9,641 ±2,038	9,357 ±1,541	15,659 ±4,113	10,968 ±2,019
IL6, pg/ml	3,114 ±0,842	2,877 ±0,692	6,550 ±0,784	30,890 ±4,557
IL10, pg/ml	4,118 ±0,751	4,618 ±0,890	16,158 ±4,126	5,142 ±0,732
TNF, pg/ml	8,391 ±0,450	7,915 ±0,387	8,316 ±0,435	7,005 ±0,347

*cytokine levels during neurosurgery*