Category :**Sedation - analgesia**

A52 - ***Dexmedetomidine increases central venous oxygen saturation in patients undergoing neurosurgery***

MC Niño [1] ; D Cohen [1] ; AL Delgadillo [2] ; EE Rodríguez [3] ; SS Valencia [2] ; GA Madrid [2]

[1]Fundación Santa Fe de Bogotá, Neuroanesthesia Service, Bogotá, Colombia, [2]Fundación Santa Fe de Bogotá, Anesthesiology Department, Bogotá, Colombia, [3]Fundación Santa Fe de Bogotá, Intensive Care Department, Bogotá, Colombia

Introduction:

Dexmedetomidine decreases sympathetic tone and reduces cerebral metabolic rate [1,2], important benefits in neurosurgery. We aimed to evaluate the effect of this medication on systemic metabolic markers that reflect the oxygen supply and demand relationship. Our hypothesis was that dexmedetomidine will diminish oxygen consumption in patients under general anesthesia and we would see an increase in central venous oxygen saturation ($ScvO_2$).

Methods:

A quasi-experimental design, including patients at least18 years old programmed for craniotomy between April 2019 and March 2020 was conducted. We excluded patients with hemodynamic instability, ventilator support, hemodynamic support, anemia, oxygen requirement, sepsis, systemic inflammatory response, and pregnancy. A sample size of 66 was calculated. After induction, a central venous catheter was placed, a sample of blood was obtained (T0), and dexmedetomidine infusion (0.3 µg/kg/hr) was started. A second sample was obtained 60 minutes later (T1) before incision was made. ScvO2 and lactate were measured in both samples. Global and stratified statistical analysis for paired samples were carried out.

Results:

A sample of 75 was analyzed. Overall, dexmedetomidine increased $ScvO_2$ (81.2% in T0 to 82.9% in T1; p 0.05). When stratified analysis was conducted, the increase in $ScvO_2$ was significant in patients older than 65 years (p 0.02) and patients with tumor (vs vascular lesion, p 0.03). Lactate levels were constant across time.

Conclusion:

Dexmedetomidine increases ScvO2 under general anesthesia without modifying lactate levels, especially among patients older than 65 years. Even though the difference was small, further studies are needed to elucidate clinical benefits of dexmedetomidine in neurosurgery.

References:

1. Ebert TJ, et al. Anesthesiology 93:382-94; 2000.
2. Drummond JC, et al. Anesthesiology 108:225-32;2008.