



## Sedation of Dexmedetomidine for Patients With Sepsis-associated Encephalopathy and Its Effect on Cerebral Oxygen Metabolism, Cerebral Injury and Inflammatory Response

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**SUMMARY.** This work investigated the sedation of dexmedetomidine for patients with sepsis-associated encephalopathy (SAE) and its effect on cerebral oxygen metabolism, cerebral injury and inflammatory response. Sixty-four patients with SAE were divided into control and observation group. The control group was treated with propofol, and the observation group was treated with dexmedetomidine. After administration, compared with control group, in observation group the Ramsay Sedation Scale score was increased, the jugular vein blood oxygen saturation was increased, the arterio-venous oxygen content difference and cerebral oxygen extraction rate were decreased, the serum neurone specific enolase and S100 $\beta$  levels were decreased, and the serum C-reactive protein, tumor necrosis factor  $\alpha$  and interleukin 6 levels were decreased (all  $p < 0.05$ ). In conclusion, dexmedetomidine has good sedative effect for patients with SAE. It can improve the cerebral oxygen metabolism, alleviate the cerebral injury and reduce the inflammatory response.

**RESUMEN.** Este trabajo investigó la sedación de dexmedetomidina para pacientes con encefalopatía asociada a sepsis (EAG) y su efecto sobre el metabolismo cerebral del oxígeno, la lesión cerebral y la respuesta inflamatoria. Sesenta y cuatro pacientes con EAG se dividieron en grupos de control y de observación. El grupo de control fue tratado con propofol y el grupo de observación con dexmedetomidina. Después de la administración, en comparación con el grupo de control, en el grupo de observación la puntuación de la Escala de Sedación de Ramsay aumentó, la saturación de oxígeno en la sangre de la vena yugular aumentó, la diferencia en el contenido de oxígeno arteriovenoso y la tasa de extracción de oxígeno cerebral disminuyeron, la enolasa sérica específica de la neurona y el S100 $\beta$  los niveles disminuyeron y los niveles de proteína C reactiva sérica, factor de necrosis tumoral  $\alpha$  e interleucina 6 disminuyeron (todos  $p < 0,05$ ). En conclusión, la dexmedetomidina tiene un buen efecto sedante en pacientes con EAG. Puede mejorar el metabolismo cerebral del oxígeno, aliviar la lesión cerebral y reducir la respuesta inflamatoria.

**KEY WORDS:** cerebral injury dexmedetomidine, inflammatory response, sepsis-associated encephalopathy.

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