



Influence of RASS-score based analgosedation on the incidence of delayed ischemic deficit in patients with acute aneurysmatic subarachnoid haemorrhage considering potential adverse side effects.

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Introduction

Delayed cerebral ischemia (DCI) remains the most relevant cause of neurological worsening after subarachnoid haemorrhage (SAH). Underlying mechanisms causing DCI include cortical spreading depression (CSD). Analgosedation helps optimizing clinical key parameters like arterial blood pressure and cerebral blood flow while simultaneously reducing cerebral oxygen consumption. It has been shown that sedative substances influence receptor mediated CSD and thus may result in neuroprotection. The aim of this study is to analyze the influence of RASS score based analgosedation on DCI bearing in mind the complications of analgosedation.

Methods

All patients who underwent SAH treatment and analgosedation were retrospectively analysed. Analysed key parameters were RASS score, administration as well as dosage of different sedative drugs and imaging results. Potential complications like ventilator associated pneumonia, duration of weaning phase, deep venous thrombosis and decubital ulcers were recognized. Neurological outcome was analysed using mGOS.

Results

Sixty – five patients were included in the study. Mean WFNS grade was 2.8. Mean duration of analgosedation was 18.4 days (SD 6.2) (mean duration of ventilation phase: 20.8 days (SD 7.1)). Mean RASS score during the first three days of analgosedation treatment was -4.06, mean RASS score between days 4 – 10 of treatment was -3.8. (between day 11 – 21 – -2.8; between day 22 – 31 -1.8). Cerebral infarction occurred in 20%. Differentiating between DCI and cerebral infarction associated to clipping/ coiling procedure show occurrence of DCI in only 7.6% of all patients. Complications of long – term analgosedation occurred in 90.7% of all patients (69% ventilator associated pneumonia, 4.6% deep venous thrombosis, 20% decubital ulcers). Mean duration of ICU stay was 23.4 days. Mean GOS at transfer to rehabilitation was 3.2

Conclusions

Evaluation of DCI in RASS score based analgosedated SAH patients shows a comparatively low rate of DCI. Nonetheless, patients might develop relevant complications in the treatment course.

Learning Objectives

Analgosedation could possible positively influence the course of SAH patients regarding delayed cerebral ischemia.
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