

Editors' Pick in July 2024

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Among the 10 papers published in the July issue of *Journal of Korean Neurosurgical Society (JKNS)* 2024, the following two papers, which deserve attention from readers, are selected by the editorial boards.

Protein requirement changes according to the treatment application in neurocritical patients⁴⁾

Precise assessment of protein requirements for critically ill patients and appropriate supplementation has become of utmost concern to prevent various complications and improve functional outcomes. In this respect, current nutritional guidelines recommend adequate amounts of protein for critical patients, apart from appropriate calorie suggestions, between 1.2 and 2 g/kg body weight per day¹⁾. However, this guideline has the disadvantage of not providing accurate dosage requirements and not being able to inform the requirements that vary depending on the stage and condition of critically ill patient. In order to overcome these shortcomings, this study identified the changes in protein requirements during neurocritical treatment, which included coma therapy and therapeutic temperature management (TTM).

The protein requirements were analyzed using urine urea nitrogen (UUN) measurements. The entire treatment period was divided into two phases : phase 1, defined as the period from

initiation of coma therapy and TTM until just before tapering and phase 2, defined as the period from the start of tapering until the discontinuation of coma therapy and TTM.

Out of the total 214 UUN data collected from 107 patients, the mean value of protein requirements was 1.84 ± 0.62 g/kg/day. During phase 1, the protein requirement was 1.49 ± 0.42 g/kg/day, while in phase 2, as the treatment was tapered, it increased to 2.18 ± 0.60 g/kg/day. This increase demonstrates statistical significance.

According to the result of the study, which showed a significant increase in protein requirements between phases 1 and 2, it is stressed to monitor protein requirements at each treatment phase rather than at regular intervals. It is also important to be keep in mind that while the overall caloric demand diminishes due to the effects of interventions such as coma therapy and TTM, the protein requirement during phase 1 remains notably high.

The study shows the importance of monitoring protein requirements during the care of neurocritically ill patients, rather than clinging to 'standardized' guidelines, to improve the quality of care for better outcomes.

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A potential risk of radiation-induced cavernous malformations following adjuvant gamma knife radiosurgery for mesial temporal lobe epilepsy³⁾

Stereotactic radiosurgery is currently recognized as a viable treatment option for patients with intractable epilepsy as an alternative to conventional epilepsy surgery. Although the effectiveness of radiosurgical treatment for mesial temporal lobe epilepsy (MTLE) has been established, the long-term safety of this treatment has not been fully assessed.

They reviewed 20 patients with MTLE who underwent Gamma Knife radiosurgery (GKRS). The majority received a prescribed isodose of 24 Gy as an adjuvant treatment after anterior temporal lobectomy. During a median clinical follow-up of 14.0 years, delayed radiation-induced changes were identified in eight patients, including six cases of radiation necrosis and two cases of tumefactive cyst formation. Three cases were diagnosed with radiation-induced cavernous malformation (RICM).

Considering the propensity for repetitive hemorrhage and high epileptogenic potential, the development of RICM could be one of the most troublesome late sequelae following radiosurgery²⁾. From this perspective, it is crucial to recognize that RICM should be considered as a potential late complication of radiosurgery, emphasizing the need for long-term imaging follow-up after the treatment.

It is to be pointed out that the development of RICM is not uncommon among patients who have received GKRS for MTLE. Practitioners should be aware of its potential as a long-term complication. Microsurgical resection of cavernous malformation has shown to be effective in enhancing seizure outcomes, particularly in cases where the initial results after GKRS are unsatisfactory.

AUTHOR'S DECLARATION

Conflicts of interest

No other potential conflict of interest relevant to this article was reported.

Author contributions

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