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The effect of post-injury erythropoietin administration on mortality and Glasgow Outcome Scales of patients with traumatic brain injury: A meta-analysis**Faye B Garciano**

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Objectives: Aim of this study is to determine whether post-injury treatment with erythropoietin provides lower mortality rates and improved Glasgow Outcome Scales in patients with traumatic brain injury (TBI).

Methods: Randomized controlled trials (RCTs) were searched through PUBMED, Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, and www.googlescholar.com. The reference list of a systematic review was also searched.

Results: Four RCTs comparing erythropoietin and placebo, regardless of dose, dosing regimen, and route of administration were reviewed. Data analysis showed that mortality rates for the erythropoietin group (OR 0.63, CI 0.43, 0.93) was significantly lower compared to the placebo group. However, there was no significant difference in the Glasgow Outcome Scales of TBI patients given erythropoietin compared to placebo.

Conclusion: Post-injury treatment with erythropoietin, regardless of dose, dosing regimen, and route of administration yielded lower mortality rates in patients with traumatic brain injury but had no significant effect on Glasgow Outcome Scales. It is recommended that further large scale randomized controlled trials be performed in order to fully establish the safety and support the efficacy of erythropoietin administration in patients with traumatic brain injury.

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Resting fMRI connectivity of hippocampal sub-region with extra-temporal area in patients of mesial temporal lobe epilepsy**Hyeon-Mi Park¹, Jiwon Yang¹, Young-Don Son² and Seok-Il Hwang²**¹Gachon University Gil Hospital, South Korea²Gachon University, South Korea

Introduction: Hippocampal sclerosis (HS) is one of the most common etiologies of the mesial temporal lobe epilepsy (MTLE) and important target for surgical resection. However, extensive areas of ipsilateral and contralateral brain tissue, more than HS, are seemed to be relevant in epileptogenicity from previous researches. We aimed to investigate functional connectivity of hippocampal sub-region in patients of MTLE with HS.

Methods: Nine MTLE (right, n=8; left, n=1) patients with unilateral hippocampal sclerosis were recruited. We obtained T1 and T2* weighted images from 3T MRI (Verio, Siemens, Germany). As a seed region for the hippocampus, 6 ROIs (anterior, middle, posterior; left and right) were manually drawn and the correlation coefficient between the hippocampus and each voxel was calculated. Then, the result of each patient was compared with control group data.

Results: Patients had a similar increased or decreased connectivity pattern between lesion (right hippocampus)-ipsilateral regions (right cerebral hemisphere) and non-lesion (left hippocampus) and contralateral regions (right cerebral hemisphere), except one patient with left HS. Hippocampal connectivity change was usually seen in the anterior and middle sub-region.

Conclusions: In this study, inconsistent result of increased or decreased connectivity between sclerotic hippocampus and other brain regions was observed. However, connectivity pattern of non-lesion hippocampus followed that pattern of the lesion hippocampus to the ipsilateral brain region. It has limitation to interpret these results due to small subjects; however, we can see the widespread brain functional change ipsilateral to the hippocampal sclerosis and there may be relevant in the epileptogenesis of TLE.

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