Neuroscience

Neuroscience Review The article chosen for the review is " Treatment of depression using sleep electroencephalogram modulated repetitive transcranialmagnetic stimulation" published in the Chinese Medical Journal. The reason why this article was selected for the review is to revive interest in research pertaining to major depression which needs continuous ongoing research so as to help the emergence of novel treatment strategies for control of various symptoms related to the disease. Several novel pharmacological agents have come up but they do not offer success rates in all patients suffering from depression and a category of patients remain resistant to even these novel agents. Also, these drugs are associated with several side effects which can be distressing and can lead to non-compliance with treatment. Hence more research is warranted in the field of both pharmacological and non-pharmacological management of depression. The article is about a study by Ming-li et al (2011) in which the researchers examined the efficacy and also the safety of sleep electroencephalogram modulated repetitive rTMS (SEM-rTMS group) for the purpose of treatment of depression. This was a randomized controlled trial in which 164 patients were divided randomly into 3 groups. The patients recruited were those with a diagnosis of depression defined clinically. Psychoactive medication was stopped 7 days prior to the trial. The 3 groups were sleep electroencephalogram modulated repetitive rTMS group, the conventional rTMS group and the sham rTMS group. Patients in each of the assigned groups were treated with the assigned treatment for 30 minutes every day for 10 days. 24-item Hamilton rating scale for depression was used for evaluation of response to treatment and clinical outcome. The results of the study showed that in the SEM-rTMS group, 21 cases showed significant

clinical improvement according to the scale when compared to 6 in the C-rTMS group and only 2 in the sham-rTMS group. Efficacy was significantly higher in the SEM-rTMS group when compared to other treatments. No significant side effects were noted in any of the groups. Based on the results of the study, the authors concluded that SEM-rTMS is not only an effective but also a safe method of treating depression. The presentation of this article is fabulous. It is clear and crisp. The flow of language is good and easily understandable. The abstract provides a crisp and complete overview of various aspects of the study including the aim, methodology, results and conclusion. In toto, it is a good and useful article for neuroscience students. The significance of this study is that this treatment approach is a novel treatment for depression with no side effects. One question that runs in my mind as I go through the article is whether this strategy of treatment can be used as a first line treatment for major depressive disorder. More research is warranted to ascertain the role of SEM-rTMS in the treatment of depression for evidence based management.. Source Ming-li, HE, GU Zheng-tian, WANG Xin-yi, SHI Heng-ping. Treatment of depression using sleep electroencephalogram modulated repetitive transcranial magnetic stimulation. Chinese Medical Journal, 2011, 124 (12) : 1779-1783.