Minocycline as a Neuroprotective agent after Aneurysmal Subarachnoid Hemorrhage: Pilot Randomized Controlled Trial

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Introduction

Multiple recent clinical trials have shown safety of minocycline and a probable trend toward better outcomes after acute ischemic stroke. (1-4) We present the results a pilot prospective double-blinded placebo controlled randomized study investigating the safety and the potential for minocycline in improving clinical outcomes after aneurysmal subarachnoid hemorrhage.

Methods

Patients with aneurysmal SAH were randomized from January 2012 to October 2014 to receive either oral minocycline 200mg/day for 21 days or identical looking placebo Demographic details were de-identified using numerical numbers, and maintained under strict control until eventual un-blinding at the end of the study period. . Blinded research nurses collected the outcome data recorded as Barthel score and mRS at 30 days and 90 days.

Results

12 females and 4 males, with equal numbers in the treatment and control arms. The mean age was 56.3 years. At 30 days, 4 out of 8 (50%) patients in both arms had a good outcome ($p>0.05$).

Two patients, 1 in each group, were lost-to-follow-up at 90-days. 4 out of 7 (57%%) in treatment group and 5 out of 7 (71.4%) in control group had good outcome at 90-days ($p>0.05$).

Conclusions

Minocycline at 200mg/day after administration in patients after SAH for 21 days was found to be safe but did not show a difference in outcome at 1 - or 3- months. The efficacy of minocycline in improving outcomes needs to be tested in large patient sample size in future.

Learning Objectives

1) The use of Minocycline in patients with aneurysmal subarachnoid hemorrhage was found to be safe, without any significant adverse effects

2) More randomized trials with larger sample size are needed to further test the efficacy of minocycline in improving outcomes in patient with aneurysmal subarachnoid hemorrhage

References

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