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RESEARCH HIGHLIGHTS

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Perispinal administration of anti-TNF agent results in rapid cognitive improvement in AD

Original article Tobinick EL and Gross H (2008) Rapid cognitive improvement in Alzheimer's disease following perispinal etanercept administration. *J Neuroinflammation* **5**: 2 **PubMed**

A substantial amount of evidence indicates that excess tumor necrosis factor (TNF) has a key role in the pathogenesis of Alzheimer's disease (AD). A pilot study demonstrated that perispinal extrathecal administration of the potent anti-TNF therapeutic etanercept (approved for the treatment of rheumatoid arthritis in 1998) conferred sustained cognitive improvements in patients with AD. During the course of the pilot trial, the researchers noted rapid clinical improvement in the patients following etanercept administration. As the original trial protocol did not allow for the measurement of improvements at short intervals, the authors have now quantitatively documented the rapid cognitive improvements seen in a new patient with late-onset AD following perispinal etanercept administration.

In this case report, an 81-year-old patient intolerant to donepezil, memantine and rivastigmine and unresponsive to galantamine (8 mg) received etanercept (25 mg) by posterior cervical interspinous injection. On initial testing, the patient scored 7 out of 30 on the Montreal Cognitive Assessment (MoCA) and was unable to recall the calendar date, the day of the week, the state in which he lived or his physician's name. At 10 min after dosing, the patient was more attentive and was able to correctly identify the state in which he lived. At 2 h after administration of etanercept, the patient scored 15 out of 30 on the MoCA, was orientated to the month and day of the week, and could recall the investigator's name. At repeat testing 7 weeks later, following 5 doses of etanercept, the patient scored 14 out of 30 on the MoCA. The researchers conclude that the TNF-related components of AD seem a promising new target for therapeutic intervention.

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