



# Aseptic meningitis: a rare complication in a patient on etanercept therapy for rheumatoid arthritis

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## Background

**Etanercept** is an anti-Tumor Necrosis-alpha (TNF- $\alpha$ ) drug, effective for the treatment of moderate to severe rheumatoid arthritis (RA). Meningeal inflammation is a rare but potentially life-threatening complication, which has been reported in association with long standing RA in patients treated with anti-TNF- $\alpha$  therapy. The aim of this study was to describe the clinical onset and evolution of **aseptic meningitis** occurring during anti-TNF- $\alpha$  therapy.

## Materials and Methods

We report a case of a 57-years-old woman who was referred to our department after presenting with two episodes of generalized seizures with focal onset. During the previous months she had been experienced episodic headache, dizziness, numbness and weakness of the left arm. The patient had an 8-year history of RA, which has been successfully treated with etanercept for the last 18 months. Routine blood analysis, electroencephalogram (EEG) and Polysomnography (PSG), brain magnetic resonance imaging (MRI) and lumbar puncture were performed.

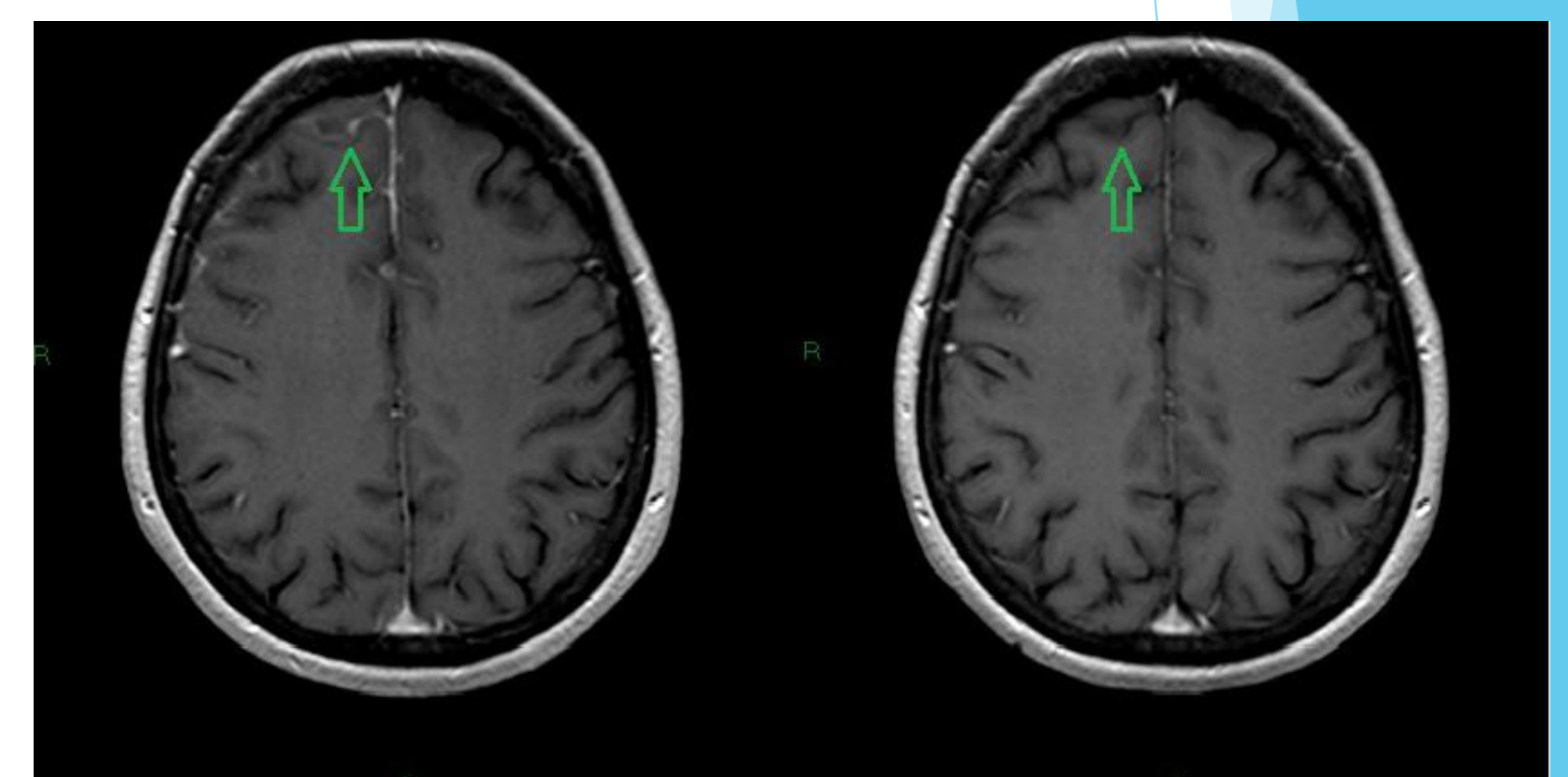
## Results

EEG and PSG showed no evidence of epileptic activity. Brain MRI pointed out a leptomeningeal enhancement in the right frontoparietal region on Fluid-Attenuated Inversion Recovery (FLAIR) sequences and gadolinium-enhanced T1 weighted image. The cerebrospinal fluid (CSF) analysis showed normal white cell count (90% lymphocytes), glucose and protein. CSF culture revealed no bacterial growth and PCR was negative for neurotropic viruses, *Borrelia* and *Mycobacterium tuberculosis*. Etanercept was promptly discontinued and Methylprednisolone pulse therapy was started, followed by oral tapering with Prednisone. After one month there was no recurrence of seizures. A follow-up brain MRI showed an almost complete resolution of the enhancement.

## Discussion and conclusions

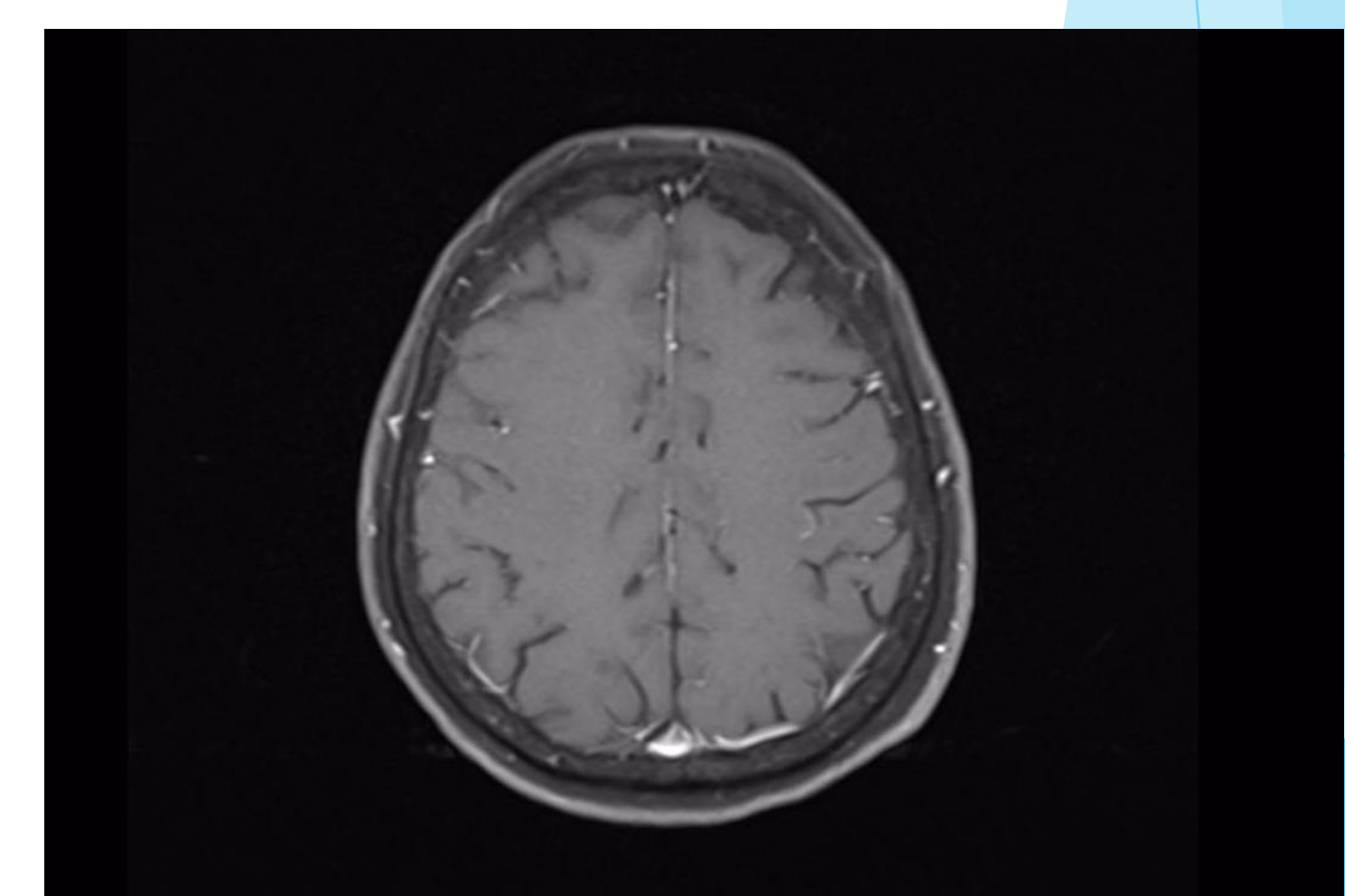
To our knowledge, there have been only few case reports of aseptic meningitis during treatment with TNF-inhibitors. The meningitis of this patient improved after discontinuation of etanercept and steroid pulse therapy. Even though we cannot exclude the possibility that the meningitis was a complication of RA itself, considering both clinical and laboratory remission of the arthritis and the good recovery after ceasing etanercept we are apt to consider the anti-TNF therapy responsible for the symptoms. Documenting this case we aim to stress the importance of recognizing this rare but severe and treatable neurological complication. Even when the RA is well controlled by TNF-inhibitors, if seizures occur they should be interrupted and steroid therapy should be considered immediately.

### gadolinium-enhanced T1 weighted images



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One month follow-up



6 months follow-up

### Bibliography

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