

# Peripheral neuropathy as potential side effect of teriflunomide

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## Background and Aims

Peripheral neuropathy has been reported as potential but rare side effect of teriflunomide. If patients develop symptoms consistent with peripheral neuropathy, the European Medicines Agency recommends to discontinue teriflunomide and performing an accelerated elimination procedure. However, real-world data are scarce, and little is known about the electrophysiological effect on peripheral nerves.

Our aim was to investigate whether neurophysiological abnormalities occur in peripheral nerves of patients with multiple sclerosis (MS) treated with teriflunomide.

## Methods

This is an interim analysis of a single center, cross-sectional study. Nine patients (41±12 yo, 66% males) with relapsing MS treated with teriflunomide have been prospectively enrolled into the study until now. A peripheral neuropathy symptom score (NSS) was completed by all patients, and a full neurological examination was carried out in order to identify any clinical evidence of peripheral neuropathy. All patients underwent nerve conduction studies (NCS) testing both upper and lower limbs. Blood tests performed within the 3 months previous the study were also retrospectively analyzed for the detection of possible confounding factors.

## Results

Four (44%) patients presented symptoms compatible with a peripheral neuropathy (NSS ≥3). However, these symptoms were not chronologically related to teriflunomide initiation, not progressive, nor associated with stocking-glove sensory loss and weak reflexes at neurological examination. At NCS study, only three (33%) patients (two with negative and one with positive NSS,  $p > 0.05$ ) were found with very mild and isolated abnormalities, not consistent with a drug induced peripheral neuropathy.

## Conclusions

The most important observations of this analysis are the lack of correlation between NCS and symptoms, and the absence of significant NCS abnormalities consistent with a diagnosis of peripheral neuropathy. Clinical scales remain not specific enough for distinguishing peripheral neuropathy from MS related-symptoms, therefore caution is needed when used for screening of peripheral neuropathy. Since peripheral neuropathy is a rare side effect of teriflunomide and significant nerve conduction abnormalities are unlikely to be found, there is probably no advantage in carrying out NCS in patients treated with teriflunomide on a routine basis.

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