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Letter to the Editor re “Complete Foot Drop With Normal Electrodiagnostic Studies: Sunderland “Zero” Ischemic Conduction Block of the Common Peroneal Nerve” by Peters and colleagues --Manuscript Draft--

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Abstract:	<p>Dear Editor,</p> <p>We read with great interest the recent publication entitled “ Complete Foot Drop With Normal Electrodiagnostic Studies: Sunderland “Zero” Ischemic Conduction Block of the Common Peroneal Nerve ” by Peters and colleagues (DOI: 10.1097/SAP.0000000000003053). However, there are significant problems with the paper that warrant clarification.</p> <p>Based on a case report, the authors propose a novel classification of chronic peroneal neuropathies at the fibular head and introduce what they call “Sunderland 0”. They believe that this is caused by an ischemic conduction block (ICB) resulting in weakness but not always sensory loss with normal neurophysiological findings and that this is immediately reversed once surgery is performed.</p> <p>The concerns are many. First, the authors imply that ICB is commonplace outside the experimental situation 1-3 and can last for 2 years without sensory findings as in Case 1. Second, the authors imply that an ICB could occur for 2 years without axonal degeneration and with almost immediate improvement following surgical ‘ decompression ’. Third, the authors imply that an ICB of the large myelinated motor fibers would not be detected on motor nerve conduction studies through the ICB lesion, that is, the 1 Hz electrical shocks of the stimulator applied proximal to the lesion site</p>

transmit through the site of conduction block without hindrance. Fourth, while the electrical shocks of the stimulator are conducted through the ICB site, voluntary motor activity from the patient conducted along the same motor nerve fibers does not. Fifth, the EMG pattern of activation, as reported, is indicative of poor effort, and does not reflect peripheral disease, in which there would be rapid firing of a reduced number of motor units. Sixth, in Case 1, the ICB affects only the large myelinated motor fibers but not the larger myelinated sensory fibers.

For all these reasons, the many hypotheses drawn from this paper cannot be accepted. In terms of interpretation of the clinical findings, the cases more likely reflect functional neurological disease 4,5 and the well-known placebo response to surgery 6,7 . Neurophysiological investigations, nerve conduction studies and electromyography, remain important components of the assessment of patients with “foot drop” and other compressive neuropathies. A normal study in these circumstances requires further investigation and assessment. We urge extreme caution in proceeding to surgery, particularly if the nerve is functionally normal and there is no objective evidence of localized disease.

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Dear Editor,

We read with great interest the recent publication entitled “*Complete Foot Drop With Normal Electrodiagnostic Studies: Sunderland “Zero” Ischemic Conduction Block of the Common Peroneal Nerve*” by Peters and colleagues (DOI: 10.1097/SAP.0000000000003053). However, there are significant problems with the paper that warrant clarification.

Based on a case report, the authors propose a novel classification of chronic peroneal neuropathies at the fibular head and introduce what they call “Sunderland 0”. They believe that this is caused by an ischemic conduction block (ICB) resulting in weakness but not always sensory loss with normal neurophysiological findings and that this is immediately reversed once surgery is performed.

The concerns are many. First, the authors imply that ICB is commonplace outside the experimental situation¹⁻³ and can last for 2 years without sensory findings as in Case 1. Second, the authors imply that an ICB could occur for 2 years without axonal degeneration and with almost immediate improvement following surgical ‘*decompression*’. Third, the authors imply that an ICB of the large myelinated motor fibers would not be detected on motor nerve conduction studies through the ICB lesion, that is, the 1 Hz electrical shocks of the stimulator applied proximal to the lesion site transmit through the site of conduction block without hindrance. Fourth, while the electrical shocks of the stimulator are conducted through the ICB site, voluntary motor activity from the patient conducted along the same motor nerve fibers does not. Fifth, the EMG pattern of activation, as reported, is indicative of poor effort, and does not reflect peripheral disease, in which there would be rapid firing of a reduced number of motor units. Sixth, in Case 1, the ICB affects only the large myelinated motor fibers but not the larger myelinated sensory fibers.

For all these reasons, the many hypotheses drawn from this paper cannot be accepted. In terms of interpretation of the clinical findings, the cases more likely reflect functional neurological disease^{4,5} and the well-known placebo response to surgery^{6,7}. Neurophysiological investigations, nerve conduction studies and electromyography, remain important components of the assessment of patients with “foot drop” and other compressive neuropathies. A normal study in these circumstances requires further investigation and assessment. We urge extreme caution in proceeding to surgery, particularly if the nerve is functionally normal and there is no objective evidence of localized disease.

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4. Bennett K, Diamond A, Hoeritzauer I, et al. A practical review of functional neurological disorder (FND) for the general physician. *Clin Med* 2021;21: 28–36
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