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Letter to the Editor Before Monomelic Ischemic Neuropathy is Diagnosed in a Patient With Diabetes Undergoing Hemodialysis, Alternative Causes Must be Ruled Out

Dear Editor:

We read with interest the article by Shephard et al. (1) regarding a 59-year-old man with end-stage renal disease requiring hemodialysis due to diabetes, who developed pain and dysesthesia in his left arm following the creation of an arteriovenous fistula (AVF). The results of nerve conduction studies (NCS) were interpreted as ischemic monomelic neuropathy (IMN); the patient responded well to tapentadol after various other pain therapies (acupuncture, pregabalin, oxcarbazepine, topiramate, opioids) had either proven ineffective or caused side effects (1). While the study is noteworthy, certain aspects warrant discussion.

A first point is that IMN cannot be diagnosed solely on the basis of NCS findings, as stated in the case report (1). NCS allow for the differentiation of axonal, demyelinating, or mixed lesions, as well as proximal, distal, or diffuse damage; furthermore, they enable the distinction between mononeuropathy, polyneuropathy, and multifocal asymmetric polyneuropathy (2). However, NCS are not suitable for identifying the underlying cause of the neuropathy (3).

Another point is that no results from NCS on other nerves were reported (1). Given the patient's history of long-standing diabetes and renal insufficiency, it is conceivable, or indeed likely, that he also suffered from diabetic or uremic polyneuropathy. Thus, it is possible that the pain and dysesthesia in the left arm arose independently of the AVF and merely reflected a multifocal, asymmetric polyneuropathy.

Third, alternative causes for the dysesthesia and pain were not considered or adequately ruled out (1). The symptoms could potentially be attributable to myelopathy, radiculopathy, plexopathy, vasculitis, or compartment syndrome (4). Therefore, it would have been necessary to rule out all possible causes for the arm pain and dysesthesia before attributing them to IMN. Ruling out differential diagnoses is crucial, as treatment and clinical course can differ significantly among these various conditions.

Fourth, the cause of the suspected ischemia was not identified (1). There are no reports of computed tomography, magnetic resonance angiography, or digital subtraction angiography. Nor were the location and treatment of the AV fistula described (1). A diagnosis of IMN should not be made unless stenosis or occlusion of the left subclavian, brachial, ulnar, or radial artery has been documented, and unless microangiopathy has been ruled out via nailfold videocapillaroscopy, laser Doppler flowmetry, laser speckle contrast analysis, cold stress testing, or measurement of systolic finger blood pressure.

A fifth point is that the therapeutic effect of tapentadol cannot be generalized (1). The therapeutic efficacy of a drug cannot be adequately assessed based on a single patient (5). Appropriately designed studies (e.g., double-blind, placebo-controlled crossover studies) are essential to determine whether tapentadol is truly beneficial for neuropathic pain. Until such data are available and confirmed, tapentadol should not be recommended for neuropathic pain.

Finally, it should be explained why more alternative therapies were not attempted. There is no mention of gabapentin, lidocaine patches, capsaicin patches, cannabidiol, TENS, or nerve blocks.

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