

Importance of distinction between paroxysmal and continuous patterns of pain during evaluation of pain after brachial plexus injury

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We read with great interest the manuscript of Bonilla et al. entitled “Pain and brachial plexus lesions: evaluation of initial outcomes after reconstructive microsurgery and validation of a new pain severity scale” [3]. The authors described a new pain scoring scale to quantify pain after brachial plexus injuries and used it to assess patients' pain before and after reconstructive surgery. Within this scale, [3] the authors integrated pain intensity scale (measured on a scale ranging from 0 to 10), with other parameters like the disability in daily activities and sleep, pain frequency, use of pain medication, and the number of zones affected by pain.

We agree with the authors that the use of such a multi-dimensional pain scale would be useful as a standard outcome measure across studies for BPA pain that would greatly enhance the comparability, validity, and clinical applicability of these studies. Whereas most of the available reports used pain intensity scales, such as the visual

analogue scale as the sole outcome measure, the new pain scale integrated factors beyond changes in pain intensity which may be more objective and of more relevance to the patient outcome.

One limitation of the above-mentioned pain scale is that it did not distinguish between the different patterns of BPA pain. It is well known that BPA pain has two patterns which are quite distinct from each other in terms of frequency and pain quality [5, 6]. Continuous background pain is usually described as burning, throbbing, and/or aching sensations and continues for a long duration, whereas paroxysmal pain is usually described as “electrical shock” or “shooting” paroxysms and usually lasts only for a few seconds [5, 6]. Although the authors included pain frequency [3], described as no pain to continuous pain, in their pain scale, this may not be sufficient to allow distinction between the two types of pain. Instead, we suggest that pain character (burning vs shooting) be also included during evaluation [1, 4]. Each type of pain should be quantified separately using visual analogue scale [1, 4]. Separate rating for the two patterns of pain will be particularly useful in evaluating the outcome of neurosurgical procedures for BPA pain [1, 6], thereby allowing clinicians to study the differential effects of the procedures on pain. Sindou et al. reported that DREZotomy was more effective for paroxysmal than continuous pain [6]. They explained the differential effects of DREZotomy based on the distinct pain origin for each type of pain [6]. Paroxysmal pain is said to originate from hyperactive neurons in the dorsal horn, whereas continuous pain extend beyond the dorsal horn up to the thalamus [6]. Also recently, our group reported that electrical motor cortex stimulation was more effective for continuous than paroxysmal pain [1]. Therefore, it can be said that pain classification is important to appropriately select patients

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for treatment and to better understand the underlying mechanisms of pain as well [1, 4]. Finally, such distinction goes in line with several previous reports which have emphasized that classifying neuropathic pain, according to their different components, will help to develop a mechanism-based treatment [2].

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