Letter to Editor

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Conservative and Surgical Treatments of Carpal Tunnel Syndrome: A Review Response to Saccomanni Bernardino

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Dear Editor
We read with great interest the recent article by Saccomanni Bernardino, "Conservative and Surgical Treatments of Carpal Tunnel Syndrome: A Review", published in the last number of International Journal of General Clinical Case Reports [1]. This paper is an updated and comprehensive exposition of both conservative and surgical treatments of carpal tunnel syndrome (CTS). We subscribe almost every line of his brilliant paper. Nevertheless, we would like to comment his paragraph: "...steroid treatment for CTS, particularly local injection, is effective for temporary relief of symptoms in many patients. However, the efficacy and duration of symptom relief with the steroid injections are still unknown" [1]. We would like to comment the results of three studies that can give an answer to this question and that will be of interest to your readers.

In 2005 we published the first randomised clinical trial comparing decompressive surgery (DS) vs local corticosteroid injections (CI) in primary CTS [2]. We included 163 wrists, 80 to DS and 83 to CI. Clinical and neurophysiological assessments were performed at baseline and 1 year after the treatment. The results showed that both treatment groups (DS and CI) were equally effective in alleviating CTS symptoms (nocturnal paraesthesias, diurnal pain and functional impairment) [2].

The 2-year follow-up of these patients [3] still showed a similarly good effect of both DS and CI groups. In the intent-to-treat analysis, 60% of the wrists in the CI vs 69% in the DS group reached a 20% response for nocturnal paraesthesias ($P<0.001$) [3].

In the 6-year (mean 6.3 years, median 5.9 years) follow-up of these two groups [4], DS showed to be more effective than CI in primary CTS. Nevertheless, the other side of the coin showed that 58% of the initial CI group did not need any further therapeutic intervention during these 6-year follow-up [4].

We will be delighted to add another complementary information for a more clear knowledge of both DS and CI treatment of CTS: let us comment another three different studies, we believe our readers will get a more complete information.

In 2014 our group demonstrated in the first randomised clinical trial in the 1-year follow-up, despite both DS and CI groups were similarly effective in improving symptoms of CTS, only DS demonstrated an improvement of the nerve conduction studies (NCS) [5]. We evaluated four neurophysiological parameters, two

motor (distal motor latency and motor amplitude) and two sensitive (sensory conduction velocity and sensory amplitude). In the 1-year follow-up, the DS group improved in three out of four parameters (distal motor latency, sensory conduction velocity and sensory amplitude). On the contrary, the CI group did not improve any of the parameters [5]. This agrees with our basic neurophysiology knowledge: one of the causes of CTS is removed in DS, so the median nerve can recover its function (partially or completely), due to removal of the transverse carpal ligament. Therefore, it is also logical that with CI (or other non-surgical treatments), the neurophysiological parameters do not improve.

Secondly, we will raise a related matter, the treatment of the clinical CTS but with normal NCS. The NCS have been considered the gold standard in CTS diagnosis, despite there is no good correlation between clinical symptoms and NCS severity. Actually, clinical symptoms usually precede NCS changes in months or even years [6]. In 2022 we compared the clinical response to CI in clinically typical CTS with impaired NCS vs same CTS symptoms but with normal NCS [6]. Both groups were treated with the same CI. There was no statistical significance between data in both groups, except in the 1-year follow-up, where the group with normal NCS achieved better results than the abnormal NCS group in the 20% response ($p = 0.006$). These data suggest that CI are similarly effective in both groups with CTS, regardless of whether patients have normal or abnormal NCS [6].

Finally, we would like to mention that not only the randomised clinical trials demonstrate the efficacy of both DS and CI in the treatment of CTS. Also studies conducted in routine clinical practice [7] show the efficacy of DS and CI in CTS. CI offers a significant advantage alleviating the symptoms of CTS over DS in the short term. However, these differences diminish over time; in the 26-week follow-up both treatments showing comparable effectiveness [7]. No longer follow-up was conducted in this study.

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