# <u>KJNT</u>

### Letter to the Editor

() Check for updates

Letter to the Editor: Commentary on Comparison of the Clinical Effectiveness Between Infrared Thermography and Electrophysiology Tests in Spinal Intradural Extramedullary Schwannoma (Korean J Neurotrauma 2022;18:306–313)

#### Suk-Hyung Kang 💿

Department of Neurosurgery, Chuncheon Sacred Heart Hospital, Hallym University Medical Center, Hallym University College of Medicine, Chuncheon, Korea

OPEN ACCESS

#### Received: Sep 28, 2022 Accepted: Oct 4, 2022 Published online: Oct 25, 2022

#### Address for correspondence: Suk-Hyung Kang

Department of Neurosurgery, Chuncheon Sacred Heart Hospital, Hallym University Medical Center, Hallym University College of Medicine, 77 Sakju-ro, Chuncheon 24253, Korea.

Email: nscharisma@hanmail.net

Copyright © 2022 Korean Neurotraumatology Society

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (https:// creativecommons.org/licenses/by-nc/4.0/) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

#### **ORCID** iDs

Suk-Hyung Kang D https://orcid.org/0000-0002-1130-9754

#### **Conflict of Interest**

The author has no financial conflicts of interest.

 See the article "Comparison of the Clinical Effectiveness Between Infrared Thermography and Electrophysiology Tests in Spinal Intradural Extramedullary Schwannoma" in volume 18 on page 306.

Dear Editor,

I have read with interest the article, 'Comparison of the Clinical Effectiveness Between Infrared Thermography and Electrophysiology Tests in Spinal Intradural Extramedullary Schwannoma,<sup>'3</sup> submitted to *Korean Journal of Neurotrauma*.

The authors performed an electrophysiological study and digital infrared thermography imaging (DITI) in 23 intradural extramedullary (IDEM) patients. Twenty-three patients were clinically divided into radiculopathy and myelopathy groups; the authors showed true positive rates of electrophysiologic studies and DITIs in the results. The authors suggest that the diagnosis of IDEM is made using magnetic resonance imaging, but DITI reflects the patient's subjective symptoms, such as pain.

Personally, I agree with the usefulness of the DITIs. DITI presents body temperature as a map and may be related to pain, but there is a high possibility that it is not. I also researched the currently published results on DITI and radiculopathy. Many researchers have considered whether DITI can be objectively used as a diagnostic method, but it seems to have numerous obstacles to overcome.<sup>1,2,4-6)</sup>

This study is worthwhile in that it covers IDEMs, which is a rare material compared to other studies. This seems to be an excellent choice in terms of comparing the results of electromyography (EMG), DITI, and somatosensory evoked potential, which are some of the existing diagnostic and evaluation methods. When the patients were divided into radiculopathy and myelopathy groups according to their clinical severity, the author showed that the results of each test differed before and after surgery.



However, to say that DITI reflects the patient's condition rather than electrophysiological tests such as EMG in this study, the sensitivity and specificity, which are comparative values of diagnostic methods, are necessary. Unfortunately, this was a retrospective study and there was no control group. Then, if possible, who should be in the control group? Are they who disease-free? Or are they patients with radiculopathy or myelopathy as symptoms, such as cervical disc patients? Or both?

## REFERENCES

- Kim DH, Kim YS, Shin SJ, Kang H, Kim S, Shin HY. Retrospective outcome evaluation of cervical nucleoplasty using digital infrared thermographic imaging. Neurospine 16:325-331, 2019
  PUBMED | CROSSREF
- Kontos M, Wilson R, Fentiman I. Digital infrared thermal imaging (DITI) of breast lesions: sensitivity and specificity of detection of primary breast cancers. Clin Radiol 66:536-539, 2011
  PUBMED | CROSSREF
- Lee JH, Paeng SH, Lee WH, Kim ST, Lee KS, Yeong PS, et al. Comparison of the clinical effectiveness between infrared thermography and electrophysiology tests in spinal intradural extramedullary schwannoma. Korean J Neurotrauma 18:306-313, 2022 CROSSREF
- Park ES, Park CI, Jung KI, Chun S. Comparison of sympathetic skin response and digital infrared thermographic imaging in peripheral neuropathy. Yonsei Med J 35:429-437, 1994
  PUBMED | CROSSREF
- Park TY, Son S, Lim TG, Jeong T. Hyperthermia associated with spinal radiculopathy as determined by digital infrared thermographic imaging. Medicine (Baltimore) 99:e19483, 2020
  PUBMED | CROSSREF
- 6. Zhang HY, Kim YS, Cho YE. Thermatomal changes in cervical disc herniations. Yonsei Med J 40:401-412, 1999 PUBMED | CROSSREF