Wissam S. A. Al-Janabi, Madridge J Neurosci. 2020
DOI: dx.doi.org/10.18689/2638-1583.a2.002

Comparison of the Phrenic Nerve Conduction Study (NCS) and the Radiological Tests in Diagnosing Phrenic Neuropathy: Display the Demographic and Statistical Characteristics of Patients with Diaphragmatic Weakness

Wissam S. A. Al-Janabi
University of Derby & Burton Hospitals, UK

Objective: To compare the sensitivity of the three prevalent tests that is commonly used in the diagnosis of a patient with diaphragmatic weakness. In addition, display the demographic data for this rare condition.

Method: In a retrospective study from January/2000 until August/2018. The data of 57 patients who were diagnosed with phrenic nerve paralysis were collected from the EMG and Epic system of HFHS. The SAS software 9.4 was used for the statistical analysis. Proc Means and Proc Frequency were used to show the demographic data and Proc logistic to show the ROC curves in a graphical representation. Besides, the Proc iml was used to simulate data for 60 more patients owing to the presence of some missing data.

Results: NCS carries the highest sensitivity, which reaches (100%) amongst the three tests (NCS, chest radiograph/computed tomography (CT) and Fluoroscopy test). Whereas, the chest radiograph showed the lowest sensitivity for this condition, (23.8%). The Sniff test has a sensitivity of (52.63%).

Conclusion: The phrenic nerve conduction study in combination with electromyography (EMG) can promptly diagnose and differentiate between the neuropathic and myopathic etiologies of the diaphragmatic weakness. Further, NCS can show whether the phrenic neuropathy is caused by axonal, demyelination or both. Moreover, the phrenic nerve conduction studies and the EMG are safe to use in the intensive care unit and critically ill patients. Furthermore, the NCS can display the degree of the phrenic nerve dysfunction based upon the amplitude and the latency.

Biography:

Wissam S. A. Al-Janabi is a US citizen born in Iraq and finished his MD degree from Baghdad University/College of Medicine. Currently, he is working in the United Kingdom at the University of Derby and Burton as a medical registrar. He earned many degrees from the United States, such as a bachelor's degree in Health Services Administration (HSA), a Certificate of Public Health, an Associate degree in Math, USMLE board. Also, he finished the Medical Council of Canada certificate (MCC) and the MRCP from the UK. He is on the verge of finishing his master's degree in biostat. He is highly interested in clinical research, especially areas of internal medicine and neurology.