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Spring 4-1-2021

“Comparison of MRI and Ultrasound in the diagnosis of peripheral nerve pathologies”

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ABSTRACT

TITLE

“Comparison of MRI and Ultrasound in the diagnosis of peripheral nerve pathologies”

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INTRODUCTION:

Peripheral nerve pathologies lead to disturbance in motor or sensory function in the distribution of the nerve leading to chronic pain and disability. The traditional diagnostic evaluation of peripheral neuropathies mainly involves a detailed history taking, clinical examination and electro physiologic studies. However, these methods do not provide any information regarding the morphology of the nerves, it helps only in assessing the functional status. Imaging also helps in diagnosing the presence of muscle denervation and associated atrophy.

Accurate detection and localization of the pathological site provides vital information for conservative management or surgical planning. Ultrasound has some advantages over MRI such as low cost, easy availability and real time imaging. Also various ultrasound guided interventional procedures are done for regional anesthesia of the nerves that helps in pain management.

In this study we are aiming to compare the sensitivity and specificity of MRI with the ultrasound in diagnosing peripheral nerve pathologies taking the surgical or nerve conduction studies or clinical diagnosis as the gold standard.

AIM:

To assess and compare the role of MRI with that of ultrasound in diagnosing peripheral nerve pathologies.

OBJECTIVES:

- To determine the diagnostic accuracy of MRI and Ultrasound in detecting peripheral nerve pathologies comparing the results with surgical/ clinical/electrophysiological evaluation.

METHODOLOGY:

The study is conducted both retrospectively and prospectively on patients who are referred to the radiodiagnosis department with the clinical diagnosis of peripheral nerve pathologies after obtaining consent for the imaging.

All the cases will be collected from institutional affiliated hospitals - KMC hospital, Ambedkar circle. KMC hospital, Attavar and Government Wenlock Hospital, Mangalore.

Non -probability convenience sampling method is followed in data collection. Standardized protocols are used while performing MRI and USG examinations. Contrast studies are done if indicated.

Sample size with total of 43 cases is assigned to the study. So far 32 cases with peripheral nerve pathologies are collected that included traumatic neuropathy, tumors, entrapment syndromes and Hansen's disease. Multiple peripheral nerves including median nerve, radial nerve, ulnar nerve, common peroneal nerve, suprascapular nerve were studied.

After collecting total of 43 cases, data will be statistically analysed and result will be formulated to conclude the study.