INFECTIOUS DISEASES (BACTERIAL, FUNGAL, VIRAL, PARASITIC, INFESTATIONS)

STUDY OF NERVE CONDUCTION PARAMETERS IN HANSENS DISEASE

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Background: Leprosy also known as Hansens disease is a chronic infectious disease caused by mycobacterium leprae. . According to WHO, new cases reported globally in 2015 was 211 973 (2.9 new cases per 100 000 people). In India, according to National Leprosy Eradication Programme, a total of 1,35,485 new cases were detected during the year 2016-17 with 5245 grade II disability, indicating the grade II disability rate of 3.94 / million population. Leprosy is one of the principle and treatable causes of neuropathy in developing countries. Neuropathy is often clinically silent in its evolution making early diagnosis exceptionally challenging. Clinical neurological examination is essentially subjective and is based on a certain level of patient awareness. Nerve conduction studies are more objective in early diagnosis of nerve function impairment.

Objective: Early diagnosis of nerve function impairment by assessing changes in nerve conduction parameters at the time of diagnosis of leprosy and assessment of changes during the course of disease while on treatment.

Materials and Methods: 50 untreated patients with leprosy were subjected to nerve conduction studies consisting of velocity, distal latencies and amplitude on all major peripheral nerves. Parameters were assessed quarterly during the course of disease while on treatment. Mean value was obtained and compared with normal values of the control population. P value was used to verify statistical significance.

Results: Study revealed features suggestive of axonal as well as demyelinating neuropathy . Sensory parameters were affected early. A clinico-electrophysiological correlation was found between nerve involvement clinically and the degree of conduction abnormalities.

Conclusions: As a single test nerve conduction studies proved to be sensitive in early detection of nerve function impairment, enabling timely treatment and prevention of deformities and disabilities. Further studies are needed to identify parameters likely to be helpful in the diagnosis of early nerve damage.