Thesis Title NEUROLOGICAL RESPONSES REACTION TIME, MUSCLE STRENGTH AND SURFACE INTEGRATED ELECTROMYOGRAPHY IN PATIENTS WITH CHRONIC ARSENIC POISONING

Name Theera Phuangnuch

Degree Master of Science (Physiology)

Thesis supervisory Committee

Thyon Chentanez, Ph.D.

Thirayudh Glinsukon, Sc.D.

Panya Tamcharoen, Ph.D.

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ABSTRACT

Neurological responses, reaction time (RT), muscle strength (MS) and surface integrated electromyography (IEMG) in patients with chronic arsenic poisoning were studied in two groups of Thai rural males at Amphoe Ron Phibun, Changwat Nakhon Sri Thammarat, ranging in age from 14-60 years. One was a group of healthy sedentary subjects (CT-grroup from the same socioeconomimcal status with patients) (n=27, age = 36.5+2.41 years), (As-group). Warned simple reaction timem (RT) from tactile stimulation was determined repetitively 5 times for several combinations of stimulation site and effector organ. Forearm muscle strength was also tested. IEMG from biceps brachii muscle of the prefered arm was recorded during the rest, voluntary contractions against load by elbow flexion 90° (1 kg, 2 kg,

3 kg, 4 kg). No significant difference was found between both right and left hand of As-group and both right and left hand of CT-group of muscle strength. Tactile reaction time of As-group (RHI, RHB, RNI, RNB), respectively was no significantly different frrom tactile RT of CT-group respectively and there was no significantly difference between IEMG of As-group and CT-group respectively.

There is no significant change with age in the RT, MTS, IEMG among C-group and As-group in different age groups of 20-30, 30-40, 40-50 years old. The above data indicate that the neurological sign, muscular strength, psychomotor speed of chronic arsenic poisoning patients may be still normal compared with control subjects.