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VALUE OF HIGH RESOLUTION ULTRASONGRAPHY IN THE ASSESSMENT OF CARPAL TUNNEL SYNDROME

A Thesis

Submitted for partial fulfillment of

Master degree
In Physical Medicine (Rheumatology and Rehabilitation)

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Index

Content	Page
- Introduction	1
- The aim of study	3
- Anatomy	4
- Anatomy of carpal tunnel	4
- Anatomy of median nerve	6
- Anatomy of ulner nerve	9
- Anomalous hand innervation	11
- Epidemiology	14
- Pathogenesis of nerve compression	17
- Clinical Picture	19
- Investigation	22
- Electro physiological studies	24
- Electro physiological aspects of median nerve	32
- Electro physiological aspects of CTS	37
- Ultrasound	
- General principles	45
- Application of U.S in musculoskeletal disorder	47
- Ultrasonography of carpal tunnel	49
- Subjects and Methods	52
- Results	67
- Discussion	86
- Summary and conclusion	93
- Recommendation	95
- References	96
-Arabic summary	

Introduction

INTRODUCTION

Carpal tunnel syndrome [CTS] was first described in the mid 1800s by sir Jams Pagets [Pfeiffer et al.,1987]

There are many definitions of the carpal tunnel syndrome, one of them is defined as a spectrum of disease involving the hand and wrist originating from problems related to median nerve [Amadio, 1992].

It is the most common type of periphral compressive neuropathies and the fastest growing one [Cumming et al., 1989].

Carpal tunnel syndrome may be idiopathic or occur 2ry to a group of illness and conditions [Doohi lee et al.,1999].

A clear mechanism of how carpal tunnel syndrome develops has yet to be elucidated. It is thought that certain repetitive activities begin an inflammatory process in the carpal tunnel, edema follows, elevating the pressure in carpal tunnel which result in compression of median nerve. Chronic compression results in ischemia of median nerve with consequent neuropathy [Doohi lee et al; 1999].

For diagnosis of carpal tunnel syndrome history taking, physical examination and EMG are involved.

Electrophysiological study is the deciding factor in determining the shift of trearment from conservative to surgical

interference based on a shift from mildly abnormal to markedly abnormal EMG results [A madio, 1992]

The nerve conduction studies are used for evaluation and diagnosis of carpal tunnel syndrome but they are of limited accuracy.

Doohi Lee et al. (1999) claimed that ultrasonography can clearly illustrate and define the normal and abnormal characteristic of the median nerve along with associated pathologies such as tenosynovitis.

With ultrasound, there is no needles or electrode piercing the muscles and certainly no voltage is used to shock the patient. The patient is comfortably seated with the wrist in neutral position. Simple placement of the transducer over the carpal tunnel allows measurements to be taken quickly and easily but it needs high experience. [Doohi Lee et al., 1999].

1