

**ROLE OF VITAMIN D IN CONVERSION OF
CLINICALLY ISOLATED SYNDROME TO
MULTIPLE SCLEROSIS: LONGITUDINAL STUDY**

Thesis

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By

Mohamed Abdelghafar Taha

(M.B.,B.Ch., M.Sc., Cairo University)
Assistant Lecturer of Neurology, Fayoum University

Supervised by

PROF. DR. HALA ABD EL-MAGEED SHAHEEN

*Professor of Neurology,
Faculty of Medicine, Fayoum University*

DR. SAYED SOBHY SAYED

*Assistant Professor of Neurology
Faculty of Medicine, Fayoum University*

DR. LAMIAA IBRAHIM DAKER

*Lecturer of Neurology
Faculty of Medicine, Fayoum University*

DR. HOSSAM ELDIN M. ABD ELAZIZ

*Lecturer of Clinical and Chemical Pathology
Faculty of Medicine, Fayoum University*

**FACULTY OF MEDICINE
FAYOUM UNIVERSITY**

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Abstract

Background: Clinically isolated syndrome (CIS) converted to multiple sclerosis (MS), in magnetic resonance imaging (MRI) and clinical feature are used to predict risk of conversion to MS. **Objective:** To study the clinical, MRI, VEP and the role of vitamin D in the conversion of CIS to clinically definite MS. **Methods:** This is longitudinal cross control study conducted on 43 patients with diagnosed as CIS according to **McDonald's** criteria (2010) the patients were recruited from Neurology Department, Fayoum University from July 2014 to July 2015 and thirty healthy control were selected for comparison of PASAT and vitamin D level. All patients underwent full clinical examination, vitamin D level assessment followed-up for one year. **Result:** 8 patients (18.3%) were converted to MS after one year follow-up the patients with CIS had lower vitamin D level compared to controls, multivariate regression studies showed that CIS patients that presented with optic neuritis (ON), higher MRI T₂ lesion load and lower vitamin D level were at higher risk for conversion to MS. Follow-up MRI showed heavier load of T₂ lesions as compared to stable CIS (<0.05), again vitamin D levels in CDMS group were lower in comparison to group Ia (<0.05). the cut-off point was 8.3 ng/l. **Conclusions:** The low level of vitamin D patients with CIS could predict early conversion to clinically definite MS particularly in the patients presented with optic neuritis and higher MRI T₂ lesion load.

KEYWORDS:

Clinically isolated syndrome, Vitamin D, Clinical, MRI