Dedication

To my dear family who provided me with great love and incredible support.

ACKNOWLEDGEMENT

I am grateful to my supervisor **Dr. Miskelyemen A/Atti A/Alla** for her advice and encouragement to conduct this study. My thanks are also due to **Dr. Tarig A/Agader,** malaria combating program Coordinator in Sudan for his assistance and support while conducting my study. I also wish to thank all the laboratory staff members of Wad Medani Teaching Hospital for their co-

ABSTRACT

This study was carried out in Wad Medani in Algezera state between Nov. 2008 and Nov. 2009. The aim the of study was to compare blood film (microscopy) with the immuno-chromatography test (ICT) histidine –rich protein -2 (HRP-2) and parasite lactate dehydrogenase (PLDH) antigen based test in the diagnosis of malaria parasite to find out an alternative method which is sensitive, simple, cheap and accurate in detecting malaria parasite. In the first part of the study, 150 samples were examined by ICT composed of histidine –rich protein -2 (HRP-2) and parasite lactate dehydrogenase (PLDH) antigens based test and microscopic examination. Demographic data of the patient was collected including clinical symptoms due to infection. Out of the 130 samples examined 30 samples were collected as negative controls and one handred samples were found to be positive by microscopy while only 57 samples were found positive by histadine –rich protein -2 (HRP-2) and parasite lactate dehydrogenase (PLDH) antigens based test.

The sensitivity of histadine –rich protein -2 (HRP-2) and parasite lactate dehydrogenase (PLDH) antigen based test was 57% and the specificity was 100%. All the (ICT) negative microscopy positive 43 samples were of low parasitaemia represented as one cross (+).

The study showed that history of fever and headache was good indicators for malaria infection. The frequency of fever was found to be 80% and headache 92% compared to uninfected individuals. Also fever during the follow up period decreased significantly from 100% to complete absence.

أجريت هذه الدراسة في الفترة من نوفمبر 2008 وحتى نوفمبر 2009 فى مستشفي ودمدني التعليمي بولاية الجزيرة.

أستخدمت الدراسة طريقة جديدة لتشخيص طفيل ألملاريا بانواعه ألاربعة وهي التشخيص المناعي الكروماتوغرافي و قد قورنت نتائجها مع نتائج التشخيص المجهري لشرائح دم سميكة ورفيعة صبغت بصبغة جيمسا من مرضي يعتقد انهم مصابون بطفيل الملاريا بناء على الأعراض السريرية التي حضروا بها للمستشفى

تم فحص شحص بواسطة التفاعل المناعي الكروماتوغرافي والمجهر وتطابقت نتائج التشخيص الايجابي بالطريقتين في 57 عينة والسلبية فى 30 عينة كانت نتائج حساسية التفاعل المناعي الكروماتوغرافي للطفيلي 100% وخاصة التقنية 57%

أشارت الدراسة ألي العلاقة الوثيقة بين الحمى والإصابة بالملاريا . حيث وضح انه الحمى هي العرض الثابت بنسبة 80% بالمصابين بالملاريا . تتناقص الحمى خلال فترة تتبع العلاج تدريجيا الي ان تختفي تماما.

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