

Dedication

**At the end of this stage of my
study I would like to dedicate
this project to those who are
always with me by their soul
and love support**

My mother

&

My brothers

**Also to those who are provided
me with help and assistance
during the course of my study**

My teachers

&

My friends

Acknowledgement

**Firstly, most thanks to my
god (Allah) for helping and
supporting not for my
research only but during my
?whole life**

**Then I would like to express
my thanks and gratitude to
my supervisor Dr.Ali Suliman,
who has been a good leader
and conductor who show me
.the way for success**

**Our grateful and thanks
to those who help me in
.practical of this research**

My teachers

&

My friends

Abstract

This cross sectional hospital based study was carried out in Khartoum and Omdurman teaching hospitals to determine the effect of *Entameba histolytica* on hemoglobin level and total white blood cell with differential counts. In period between 10\5\2007 to 29\7\2007. The total sample size equal 150, were randomly selected from Sudanese patients of (77 males and 73 females), at different age groups, with and without clinical symptoms of intestinal amoebiasis, they were divided in to three groups according to the questionnaire and microscopical stool examination (wet preparation and concentration techniques), these are non infected, infected before, and infected groups, other parasitic infections were excluded. Subsequently 150 blood samples were collected and analyzed using colorimetric method (0.02 ml capillary blood added to 4ml of drabkins solution) for haemoglobin measurement, white blood cell count using (0.02 ml of blood added to 0.38 ml of 2% Glacial acetic acid solution using Neubauer chamber for cell count). Leishman stain for differential leukocytes count was added to a fixed thin blood film for 3-4 min then double volume of leishman buffer was added for 6-8 min.

Haemoglobin level was found to be 12.12 g\dl, 12.08 g\dl and 11.25 g\dl in non infected, infected before and infected groups with *E.histolytica* respectively. The haemoglobin level decreased in infected group with *E.histolytica* and show highly significant differences between non-infected and infected group at $p < 0.01$ level. Mean hemoglobin concentrations were found to be higher in males in all groups than in females, (12.6 ± 0.5 g/dl [std=1.3] versus 11.2 ± 0.5 g/dl [std=1.2], $p = .002$). statistically significant at $p < 0.01$ level. Mean leukocytes count in *E.histolytica* infected group ($6300 \text{ c}\text{\cumm}^3$), infected before ($5300 \text{ c}\text{\cumm}^3$) and non infected ($4800 \text{ c}\text{\cumm}^3$). When these results were compared, *E.histolytica* infected

group had higher leukocytes count which exceed the normal mean value, there is very highly significant differences at $p < 0.01$ level. Differential leukocytes counts were increased in *E.histolytica* (infected group in neutrophils and eosinophils count (60.88%/1.90% Comparing to non-infected group (57.36%/0.92%), statistically significant at $p < 0.01$ level. while lymphocytes, basophiles and monocytes count in *E.histolytica* infected group: (30.98%/6.06%/0.16%), were found to be within the normal range.

النتائج

أجريت هذه الدراسة بمستشفى الخرطوم و أم درمان التعليمي بغرض التعرف على مرض الزحار الاميبي او الدسنتاريا الأميبية وأثرها على نسبة الهيموغلوبين وعدد كريات الدم البيضاء وعدد كريات الأنواع المختلفة لخلايا الدم البيضاء في الفترة ما بين مايو و يوليو 2007 . حيث تم فحص 150 عينة تمثل مجتمع البحث (77 من الذكور و 73 من الإناث) قسمت إلى ثلاثة مجموعات بناء على الاستبيان والفحص المجهري للفسحة) مستخدما الفحص المباشر و الفورمال ايثر)، المجموعة الأولى لم تصاب من قبل بمرض الزحار الاميبي والثانية أصيبت وتمت معالجتها أما الثالثة حديثة الإصابة بالزحار الاميبي.

كذلك تم جمع 150 عينة دم لمعرفة مستوى الهيموغلوبين مستخدما الكلوروميتر (4 مل من محلول الدراكين + 02 مل من الدم). ولحساب عدد كريات الدم البيضاء مستخدما 38 مل من 2% Glacial acetic acid + 02% (مل من الدم) وصبغة اليشمان لحساب عدد الأنواع المختلفة لكريات الدم البيضاء (1-2 مل من الصبغة وضعت على الفلم الرقيق المثبت بالكحول لمدة 3-4 دقائق وأضيف إليها 2-4 مل من محلول اليشمان المتعادل لمدة 6-8 دقائق). كانت نسبة الهيموغلوبين في كل من الأشخاص غير المصابين، المصابين من قبل و حديثي الإصابة (12.12 g/dl, 12.08 g/dl and 11.25 g/dl) على التوالي.

أظهرت النتائج أن هناك علاقة ما بين المرضى حديثي الإصابة بالزحار الاميبي مع المجموعة التي لم تصاب من قبل. فكانت نتائج الهيموغلوبين لدى المصابين 11.25g/dl وهي أقل من نتائج المجموعة غير المصابة حيث سجلت نسبة قيمتها 12.12g/dl, عند درجة الاختلاف المعنوي $p < 0.01$. كما وجد أن نسبة الهيموغلوبين اعلى عند الذكور مقارنة مع النسبة في كل المجموعات (12.6 ± 11.2 ± 5 g/dl [std=1.2], $p = 0.002$ versus 12.08 ± 5 g/dl [std=1.3]). عند درجة الاختلاف المعنوي $p < 0.01$.

أما نتائج خلايا الدم الأبيض كانت أعلى عند المصابين 6300 cumm عن أولئك غير المصابين 4800 cumm عند درجة الاختلاف المعنوي $p < 0.01$. كذلك كانت عدد كريات الأنواع المختلفة لخلايا الدم الأبيض زائدة في كل من الخلايا الحامضية

والمعادلة (60.88%/1.90%)، عند درجة الاختلاف المعنوي $p < 0.01$ بينما كانت في المدى الطبيعي في كل من الخلايا القاعدية، الاكلة الكبيرة و الليمفية (30.98%/0.16%/6.06%) على التوالي.

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