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Study of blood parameters for gastric ulcer patients.

دراسة المعايير الدموية لمرضى قرحة المعدة

أعداد

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List of abbreviations

NEU: neutrophil

LYM: lymphocyte

MON: monocyte

PCV: packed cell volume

MCV: mean corpuscular volume

MCH: mean corpuscular hemoglobin

MCHC: mean corpuscular hemoglobin concentration

RDW: red blood cell distribution width

MPV: mean platelet volume

PLT: platelet count

Hb: hemoglobin

**“Dedicated to my beloved parents & family” For their love,
endless support, encouragement and sacrifices**

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Abstract

The present study to investigated effect of gastric ulcer disease on blood profile in human patients this study chosen for the importance of this disease and the incidence of the disease so we decided to research it by taking blood samples from patients with stomach ulcers, where 50 blood samples were collected from people infected with this disease from the General Hospital in the city of Diwaniyah ...October to November ... of the year .2017-2018.....the results shown this disease was effect on blood profile in human patients.

الخلاصة

اجريت الدراسة الحالية لغرض معرفة تأثير مرض قرحة المعدة على الدم في الانسان لذلك قررنا البحث فيه من خلال اخذ عينات دموية من مرضى قرحة المعدة حيث تم جمع 50 عينة دموية من الأشخاص المصابين بهذا المرض من المستشفى العام في مدينة الديوانية من الفترة تشرين اول ... الى تشرين ثاني.....من سنة.....2017-2018... حيث بينت النتائج ان لمرض قرحة المعدة تأثير مباشر على تغيرات فعلية في الدم للمرضى المصابين بهذا المرض كما هو مبين في فصل النتائج.

Introduction

Peptic ulcer is the most common disease , and is the major cause of morbidity and mortality in patient with peptic ulcer. many factor can cause peptic ulcer such as : aspirin is known to have adverse effect on gastrointestinal tract [GI] including peptic ulcer disease and , the annual incidence of peptic ulcer induced by aspirin is approximately 5-10 % and the prevalence is approximately 10% [1]. another example : Helicobacter pylori is have role in pathogenesis of peptic ulcer is a crucial to prevention of life threatening upper gastrointestinal [2] . approximately 86-95 % duodenal ulcer patient and up 70 % of gastric ulcer patient have concurrent helicobacter pylori infection [3] . peptic ulcer disease affect has been estimated at round 1.5 % to 3 % [4] . For psychological comfort and not to think too much and to avoid anxiety, insomnia and tension , an important role time in the lack of peptic ulcer stomach : also eating meals from time neat by works to protect the stomach and keep it safe from ulcer , if you don't take regular medication . you will increase your stomach ulcer [2,3]. pain severe at the top stomach . increase high in the proportion of acidity [5]. twice as severe in membrane stomach in resistant hydrochloric this is the acid cause acidity high because of reflux food towards the esophagus and cause pain numerous cannot afford[6,7] . feeling permanent nausea. Happens in causes of stomach ulcer severe injury bleeding sharp digestive and this bleeding come out by vomiting or with the stool, A blockage in intestinal . inability to eat or loss of appetite and other symptoms [8]. If the patient is suffering from these symptoms should be going to Dr. the competent in order to diagnose, and gave him the appropriate treatment[9] .

Many factor that causes peptic ulcer stomach : such as

The neural server is a factor a basic injury ulcer stomach thinking server and anxiety and stress insomnia an important role in injury ulcer stomach [10,11].

Alcoholism and smoking of all kinds increases the appearance of infection with stomach ulcer , eating same food that contain high proportion of spices with a hot taste affects the wall of the stomach and

penetrates it with toxins and works to ulcers the membrane of the stomach and tears,[12]

taking some drugs such as aspirin and the treatment of stimulants frequently work on stomach ulcer , a patient with stomach rate of infection , as resulting of number of members of this disease and transfer of genetically from one person to another and also ,secretion of acidic causing injury ulcer stomach[14,15] .

Helicobacter pylori bacteria are the most common causes of ulcer , where the cause of infection is 50-60% these bacteria can coexist with acid in the stomach by sorting enzymes that protect from acid . these bacteria urea which in turn lead to mucosa rupture which covers the internal surface of the stomach and duodenum and prevents it from doing it is works against the yeast of pepsin and hydrochloric acid [16,17,18]. the wall of the stomach becomes more susceptible to ulcers and the bacteria is the main cause of the recurrence of infection unless treatment with appropriate antibiotics[19,20].

Material and Methods

Samples collection:

Fifty blood samples of human were collected from patient of gastric ulcer disease and put of blood in tube with EDTA, and collection 10 blood samples from human healthy, and tested by blood analyzer apparatus.

Materials

1. Sterile syringe 5 ml.
2. Cotton.
3. Tube with EDTA.

The results

The results illustrated in table (1,2) showed significant differences ($p>0.05$) between experimental groups at all. Also the statistical analysis showed significant differences ($p>0.05$) between healthy and gastric ulcer group.

Table (1):WBCs

Parameters	Healthy	Gastric Ulcer
Gender (M/F)	(5/5)	(30/20)
WBC (* $10^9/L$)	6.80 ± 1.33	8.98 ± 2.98
NEU (%)	3.70 ± 1.02	4.23 ± 2.74
LYM (%)	30.5 ± 0.5	35.12 ± 1.5
MON (%)	5.1 ± 0.05	7.05 ± 0.05

Table (2): RBCs

Parameters	Healthy	Gastric Ulcer
Gender (M/F)	(5/5)	(30/20)
RBC (* $10^{12}/L$)	4.75 ± 0.45	3.84 ± 0.94
Hb (g/L)	14.24 ± 28.06	104.84 ± 27.77
PCV (%)	40.46 ± 5.65	33.21 ± 3.21
MCV (fL)	89.63 ± 4.05	84.26 ± 10.70
MCH (Pg)	27.2 ± 2.0	28.2 ± 2.01
MCHC (g/dl)	33.09 ± 1.58	30.21 ± 1.05
RDW (%)	10.92 ± 0.94	12.90 ± 1.02
MPV (fL)	9.16 ± 0.84	8.41 ± 1.23
Plt (* $10^9/L$)	221.06 ± 48.95	263.45 ± 97.49

Discussion

The gastric ulcer is very important disease in Iraq and ratio of infected is very highly in human and from this importance we choice this study to knowledge of effect this disease on blood profile, the red blood cell distribution width (RDW) reflects the heterogeneity of the peripheral blood erythrocyte volume and is based on the width of the RBC volume distribution curve [21]. Increased red cell destruction and ineffective red cell production can be characterized by an increased RDW [22]. RDW is a new chronic inflammatory indicator, unrelated to age, gender, or hemoglobin level, but it is connected to skin eruptions, multiple sclerosis, and enclosing spondylitis [23,24-25]. In addition, the erythrocytes are functionally specialized to transport oxygen. Their numbers vary according to disease or physiological condition.[26, 27, 28] Their preparation is a guide to the health status of the animal . morbidity is due to the breakdown of red blood cells and changes in the speed of oxygen – induced red blood cell production. And both (Hb) (PCV) are the most important blood parameters when diagnosing certain diseases such as anemia liver disease and cancer .[29, 30 31] the size of the cells is the concentration of hemoglobin concentration and the number of red blood cells . Any change in their values is an indication of damage to one or both . the (PCV) is also a sign of the removal of toxins from the blood and disorder of the percentage refers to the presence of toxic factor adversely affects the process of blood formation .[32,33] moral decline in concentration in the control group compared to other groups is due to ulcer damage .

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