

شبكة المعلومات الجامعية







شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها على هذه الأفلام قد أعدت دون أية تغيرات



## يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار في درجة حرارة من ١٥-٥٠ مئوية ورطوبة نسبية من ٢٠-٠٠%. To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%



بعض الوثائق الأطباعة الأطباعة عبن شمس المامعة عبن شمس المامعة عبن شمس المامعة المامعية المام



بالرسالة صفحات لم

ترو بالإصل

a sealal alegant as a constant and a sealant as a constant as a constant and a sealant as a constant as a constant

# Pattern of Steatosis and Histopathological Changes in Patients with Chronic HCV

#### **Thesis**

Submitted in partial fulfillment of the requirements of the master degree in Tropical Medicine

#### By

Ahmed Mohamed Bahaa El Din M.B., B.Ch.

#### Supervised by

#### Prof. Dr. Hosney Mohamed Salama

Professor of Tropical Medicine, Cairo University

#### Prof. Dr. Ali Ahmed El Hindawi

Professor of Pathology, Cairo University

#### Dr. Sahar Ezzat Lashin

Lecturer of Tropical Medicine, Cairo University

2006

C x yar &

• 1	1	وتعافينا والأبي ف	mai.4L
	المليا	دراسات	Ϊ́L

اجتماع لجنة الحكم على الرسالة المقدمة من العلبيب / احمد مرح كري الرحم التعليب / الكتاوراه توطنة للحصول على درجة الماجستير / الكتاوراه في نز بالمرين ف

وباللغة العربية والشيء وتست ويزو والمحسة حب الكريمة بالمعرد والمراكسة والمعرد - Some De Maria Company

> بناء على موافقة الجامعة بتاريخ 🕠 / ١٢ / ٢٠٠٠ تم تشكيل لجنة الفحص والمناقشة للرسالة المذكورة أعلاه على النحو التالى :-١. ارد عسيد مساور المساور الما المراجع المساور المساور المساور عن المشرفين ممتحن داخلي

The same of the sa ٣. النامة المحالات مراه مسالمها التي بالمعمل عامل الماسية السياسة معتمل خارجي

بعد فحص الرسالة بواسطة كل عضو منفرذا وكتابة تقارير منفردة لكل منهم انعقدت اللجنة مجتمعة في يوم ١٨٤٪ لا بتاريخ ١٤/٢ /٢٠٠٦ بقسم ١٠٠١ مدرج يُرَيّ لللهُ بكلية الطلب - جامعة القاهرة وذلك لمناقشة الطالب في جلسة علنية في موضوع الرسالة والنتائج

التي توصل اليها وكذلك الأسس العلمية التي قام عليها البحث • قرار اللجنة: ...... في المستخدم المعلى المستحد المعلى المستحد المستحد

توقيعات أعضاء اللجنة:-الممتحن الداخلي المشرف الممتحن 

-----

الممتحن الخارجي

# بسم الله الرحمن الرحيم

# [وما أوتيتم من العلم إلا قليلا]

صدق الله العظيم

(سورة ألأسرأء, الاية 85)

### **ABSTRACT**

This study was conducted on 27 patients including 21 males and 6 females with chronic hepatitis C virus (HCV) infection and bright liver by Ultrasonography.

All 27 patients were subjected to complete history taking, clinical and physical examination, abdominal ultrasonography, laboratory investigations, and liver biopsy.

Steatosis was present in liver biopsies of 19 patients (70:4%). Out of these 19 patients, 13 had mild steatosis, 3 had moderate steatosis and 3 had severe steatosis.

Body mass index (BMI) and serum albumin were significantly higher in patients with histopathological steatosis compared with those without.

In conclusion, hepatic steatosis was highly prevalent in patients with chronic HCV infection and is mild in the majority of cases. It was not related to HCV RNA level and might be due to associated non-alcoholic steatosis or steatohepatitis.

### **Key Words:**

Hepatitis C - Steatosis- Steatohepatitis

### **Ackonowledgement**

First of all thanks to GOD...

It was an honor and great pleasure to work under the supervision of professor Dr. Hossny Mohamed Salama, Professor of Tropical Medicine, Cairo University, stood by me and offered me his expert advice, invalued experience and great help with fatherly attitude. No words would fulfill the feelings I have towards his continous support, encouragment and noble attitude, which I have felt during this work.

I am greatly indebted and deeply grateful to professor Dr. Ali Ahmed El Hindawi, Professor of Pathology, Cairo University for his kind supervision throughout the work.

I must express my sincere gratefulness to Dr. Salwa Mokhtar Mostafa, Lecturer of Tropial Medicine, Cairo University, for her support and sincere guidance for this work.

I would like to thank Dr. Sahar Ezzat Lashin, Lecturer of Tropical Medicine, Cairo University, for her encouragement.

I wish to express my sincere thanks to my wife and all my family, without their help and support this work could not be completed.

Last, but not least, thanks to the patients, hoping this work will share in alleviate sufferings.

INTR	ODUCTION
AIM	OF THE WORK
REVI	EW OF THE LITERATURE
1.	HEPATITIS C VIRUS
	1- Introduction
	2- Molecular virology
	3- HCV quasi-species
	4- Genotypes
	5- Serological tests
	6- Immune response
	7- Epidemiology
	8- Natural history
	9- Clinical course
	10- Hepatic histology
	11- Prognosis
	12- Prevention
	13- Treatment
	14- Hepatic transplantasion
	15- Hepatitis C in Egypt
2.	STEATOSIS (FATTY LIVER)
	1- Introduction
	2- Diagnosis
	3- Classification
•	4- Non-alcoholic fatty liver disease
	5- Non-alcoholic steatohepatitis
	6- Non-alcoholic steatonecrosis
•	DEL ATION DETENDED MONTH AND CORP. TO CAS
3.	RELATION BETWEEN HCV AND STEATOSIS
	<ul> <li>1- Hepatitis C Virus Infection and Liver Steatosis —————————</li> <li>2- The Role of Steatosis in the Progression of Chronic Hepatitis C——</li> </ul>
	2- The Role of Steatosis in the Progression of Chronic Hepatitis C
	3- The Impact of Steatosis on HCV Disease Progression and on
	Early and Sustained Treatment Response
	4- Relationship between genotypes of hepatitis C virus and
	histopathological manifestations in chronic hepatitis C patients.
	5- Hepatic Steatosis Is a Significant Risk Factor for Hepatocellular Carcinoma in patients with chronic HCV
	Carcinoma in patients with chronic HCV.————————————————————————————————————
	with Chronic Hepatitis C
	7- Impact of Steatosis on the Progression of Fibrosis in Patients with
	Mild hepatitis
	way includes a second of the s

SUMMARY IN ARABIC -----

### LIST OF TABLES

TABLE 1: Possible factors predicting a favourable response to	
antiviral therapy in chronic HCV infection	20
TABLE 2: Chronic hepatitis C: interferon and ribavirin therapy	22
TABLE 3: Histological activity index (HAI) (excluding fibrosis)	43
TABLE 4: Correlation of HAI score (excluding fibrosis) and diagnosis in chronic hepatitis	43
TABLE 5: Ishak modified score for staging of chronic hepatitis	44
TABLE 6: Grading of steatosis severity	44
TABLE 7: Clinical and Ultrasonographic characteristics of patients	48
(total=27)	
TABLE 8: Laboratory characteristics of patients (total=27)	50
TABLE 9: Histopathological characteristics of patients (total=27)	51
TABLE 10: Clinical characteristics of patients according to their	52
gender	<i></i>
TABLE 11: Laboratory and Histopathological characteristics of	
patients according to their gender	53
TABLE 12: Clinical characteristics of patients according to the	
presence or absence of histopathological steatosis	54
TABLE 13: Laboratory and Histopathological characteristics of	
patients according to the presence or absence of histopathological	55
steatosis	
TABLE 14: Clinical characteristics of patients according to the stage	57

TABLE 15: Laboratory and Histopathological characteristics of	58
patients according to the stage of chronic hepatitis	
TABLE 16: Clinical characteristics of patients according to the	60
presence or absence of liver cirrhosis by ultrasonography.	
TABLE 17: Laboratory and Histopathological characteristics of	61
patients according to the presence or absence of ultrasonographic liver	
cirrhosis.	

#### LIST OF FIGURES

FIGURE 1: Correlation between severity of histopathological steatosis		
and serum albumin		
FIGURE 2: Correlation between Duration of liver disease (in months)	63	
and serum albumin		
FIGURE 3: Correlation between grade of chronic hepatitis and serum	- 1	
albumin	64	
FIGURE 4: Correlation between grade of chronic hepatitis and HCV		
RNA	65	
	66	
FIGURE 5: Correlation between body mass index and HCV RNA	67	
FIGURE 6: Chronic active hepatitis (HCV infection).	07	
FIGURE 7: Chronic hepatitis C with cirrhotic stage.	67	
FIGURE 8: Macro Vesiculer Steatosis.	68	
FIGURE 9: Micro vesicular steatosis.	68	
	69	
FIGURE 10: Chronic HCV with steatosis, heavily infiltrated with	69	
lymphocytes (low power).		
FIGURE 11: Chronic HCV with focal steatosis (high power).	<i>(</i> 0	