Cairo University
Faculty of veterinary medicine
Department of
Cytology & Histology

Histological and histochemical studies on the liver of the buffalo *(Bubalus bubalis)*

Thesis Presented By

Eman Rashad Mohamed Fathi Atiat-Allah

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Under the Supervision of

Prof. Dr. Hany Ahmed EL-Habback

Professor of Cytology and Histology

Faculty of Veterinary Medicine

Cairo University

Dr. Mohamed Ibrahim Abdrabou

Assistant Professor of Cytology and Histology

Faculty of Veterinary Medicine

Cairo University

Dr. Shaymaa Hussein Mohamed

Assistant Professor of Cytology and Histology

Faculty of Veterinary Medicine

Cairo University

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Cairo University

Faculty of Veterinary Medicine

Department of Cytology and Histology

Name: Eman Rashad Mohamed Fathi Atiat-Allah

Nationality: Egyptian

Date of Birth: 10th septemper1990

Place of Birth: Cairo

Specialization: Cytology and Histology

Degree: M.V.Sc

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Prof. Dr. Hany Ahmed El-Habback
Professor of Cytology and Histology, Faculty of Veterinary Medicine, Cairo University.

Dr. Mohamed Ibrahim Abdrabou
Assistant Professor of Cytology and Histology, Faculty of Veterinary Medicine, Cairo University.

Dr. Shaymaa Hussein Mohamed
Assistant Professor of Cytology and Histology, Faculty of Veterinary Medicine, Cairo University.

Abstract

(Key words: Buffalo, liver, morphology, histology, Ito cells, kupffer cells, vitamin A, trace minerals, glutathione)

The liver of twenty adult apparently healthy water buffaloes of both sexes investigated anatomically, histologically, histochemically, electron microscopy, immunohistochemically and immunofluorescently, In addition, the normal levels of glutathione and trace minerals were estimated. Thick covering capsule and well developed connective tissue in the portal area were observed. Moreover reticular fibers were detected in different manners; network and dispersed form. Solitary bile ducts were distributed along the hepatic parenchyma. Ultrastructuraly; oval cells with electro-lucent nucleus and scanty cytoplasm were demonstrated among the cells lining the bile duct. Immunohistochemically, Von Kupffer cells revealed positive reaction to CD68 and Ito cells gave more intense reaction to Anti-vimentin than Anti-desmin. On the other hand, the latter showed high reactivity for vitamin A immunofluorescence. The most obvious result in this study was the insulin and glucagon immunoreactivity. The mean values of trace minerals were higher in iron, copper and zinc.

DEDICATION

*I dedicate this project to **God** almighty my creator, my strong pillar, my source of inspiration, strength, wisdom, knowledge and understanding.*

*A special thanks to my family. Words cannot express how grateful I am to my **mother**, **father**, **sister**, and **brother** for all of the sacrifices that you've made on my behalf. You always loved me unconditionally and gave me good examples that taught me to work hard for the things that I aspire to achieve. Your prayer for me was what sustained me thus far.*

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