

# HISTOCHEMISTRY OF THE LIVER OF LARGE WHITE YORKSHIRE PIG (*SUS SCROFA*)#

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Received Revised on: 09.02.2017

Accepted on: 08.01.2018

## ABSTRACT

In the present study histochemistry of liver of six pigs showed glycogen exhibited an irregular distribution within the cytoplasm of the hepatic cells and interlobular septa. The calcium contents were found around the hepatic cells and interlobular septa. Iron content was seen around hepatic cells and interlobular septa. Iron content was in higher concentration in sinusoids.

**Key words:** Histochemistry, pig, liver, hepatocyte

## Introduction

The liver plays an important role in the digestion process of these nutrient matters and energy production. Each hepatic cell is, indeed, associated with an exocrine function as well as functions directly linked with the circulating blood. Important functions performed by the liver are secretion of bile, excretion of waste products, storage of glycogen and vitamins (Vit A, Vit. D and Vit. B Complex), synthesis of fibrinogen, prothrombin, albumin, globulin etc., phagocytosis of foreign particles, detoxification, intermediate metabolism of carbohydrates, proteins and fats and haemopoiesis in embryo.

## Materials and Methods

The present study was conducted on six apparently healthy adult Large White Yorkshire pig (*Sus scrofa*) of either sex. The liver from the freshly slaughtered animals were procured from local abattoir houses, Bikaner. For the histochemical examination, the small pieces of tissues (2 mm size) were collected from six livers. From each liver, the tissues were collected from ten fixed anatomical regions to explore regional differences if any. The tissues were preserved in Zenker's fluid for 3-18 hrs. Fixed tissue was later washed in running tap water followed by dehydration in ascending grade of alcohol, clearing, embedding in paraffin wax of melting point of 58-60°C, preparation of blocks, section cutting (6-10 µm thick), and mounting of section on albuminized slides, drying of sections and finally stained with the following routine histological stains to demonstrate different components of liver.

1. Periodic Acid-Schiff (PAS) reaction for glycogen (Luna, 1968).
2. Kossa's method for calcium (Luna, 1968).
3. Gomori's method for iron (Luna, 1968).

## Results and Discussion

### Glycogen content in the hepatocytes

The glycogen exhibited an irregular distribution within the cytoplasm of the hepatic cells. The hepatocytes of the peripheral, periportal and centrilobular regions were richer in glycogen content, which was in agreement with the findings of Greep (1954) in man, Santhi Lakshmi *et al.* (1999b) in domestic duck, Pareek (2000) in sheep, Adibmoradi (2007) in horse and Bamaniya (2013) in Marwari goat. Whereas Abdalla and Ismail (2015) revealed that Moreover, the cells located directly under the capsule showed intensely stained masses of glycogen in liver of the camel.

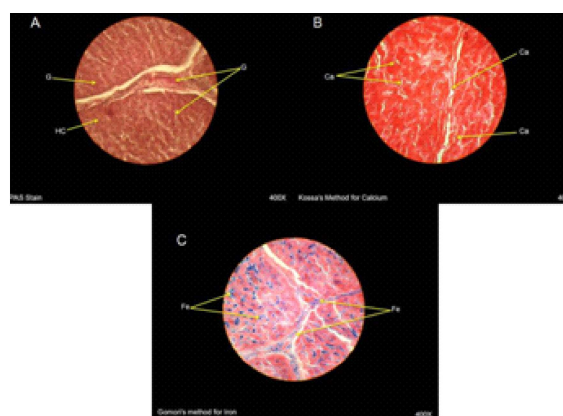


Fig. 1: A showing glycogen content (G) B showing calcium content (Ca) C showing iron content (Fe)

### Calcium content in the hepatocytes

Calcium contents were found around the hepatic cells and interlobular septa.

### Iron content in the hepatocytes

Iron content was seen around hepatic cells and interlobular septa. Iron content was in higher concentration in sinusoids.

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