

Histological and Morphometric Studies of the Liver of Goats Aborted

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Abstract : In the Algerian Sahara, goat farming is predominant, and it's associated with other types of breeding, particularly camel and sheep; it also constitutes a significant proportion of breeding exclusively goat. This Saharan goat is a small ruminant with a black dress with white's spots, hanging ears, and a coat more or less long. It is known for its hardiness and resistance to adverse conditions of arid zones and its perfect ecophysiological adaptation to harsh environmental conditions. However, pregnancy alterations, particularly abortion, degrade its productivity and cause economic losses, having both direct and indirect effects on animal production, like the costs of veterinary interventions and the reconstitution of livestock. The purpose of this work is to study the histological aspect of the liver of goats' aborted living under nomadic herds in the region of Béni-Abbès (30° 7' N, 2° 10 'O). The organs were collected in physiological serum, rinsed, and then fixed with formaldehyde (37°, diluted at 10%). After that, these samples were processed for a topographic study. The morphometric study of the liver was performed by using an image analysis and processing software "Image J"; the various measurements obtained are intended to specify the supposed stage of development according to the body weight. The histological structure of the liver shows that the hepatic parenchyma consists of vascular conjunctive spaces surrounded by Glisson's capsule. The sinusoids and hepatic portal vein are full of red blood cells, representing sinusoidal congestion and a thrombosed vein. At high magnification, the blood vessels show the presence of vascular thrombosis and haemorrhage in some areas of the hepatic parenchyma. Morphometric analysis shows that the number of liver parenchymal cells and the diameter of liver vessels vary according to the stage of development. The results obtained will provide details of the anatomical and cellular elements that can be used in the diagnosis of early or late abortion and late embryonic death. It would be interesting to find, by immunohistochemistry, some inflammatory markers useful for monitoring the progress of pregnancy and bioindicators of fetomaternal distress.

Keywords : aborting goat, arid zone, liver, histopathology

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