

## POSTPARTUM PROGESTERONE PROFILE AND SOME PERIPARTUM BLOOD PARAMETERS RELATED TO LIPID METABOLISM AND LIVER FUNCTION IN EWES

Ahmed Hade<sup>1</sup>, Kamel Miroud<sup>2</sup>, Rachid Kaidi<sup>3,4</sup>

<sup>1</sup>*Institute of Veterinary Sciences, University of Mentouri Brothers Constantine, El Khroub, 25160, PB 56, Constantine, Algeria tel.:+213 0773753520; e-mail: hadef\_vet@yahoo.fr*

<sup>2</sup>*Department of Veterinary Sciences, Chadli Bendjedid University, El-Tarf, 36000, PB 73, Algeria E-mail: k\_miroud@yahoo.fr*

<sup>3</sup>*Institute of Veterinary Sciences, Saad Dahlab University, Blida, 09000, PB 270, Algeria E-mail: kaidirachid@yahoo.fr*

<sup>4</sup>*School of Veterinary Medicine and Science, University of Nottingham, United Kingdom*

*Corresponding author: Ahmed Hade<sup>1</sup>*

*e-mail: hadef\_vet@yahoo.fr; tel. +213 0773753520*

**Abstract.** In order to determine whether the postpartum progesterone profile varies according to cholesterol and other blood parameters related to lipid metabolism and liver function during the peripartum period, a study was conducted on 13 clinically healthy ewes of “Ouled Djellal” breed. A total of 144 blood samples were collected during the fifth month of pregnancy and between day 7 and day 57 postpartum. Blood plasma was used to assess total cholesterol, triglycerides, albumin, total bilirubin and direct bilirubin concentrations via a quantitative colorimetric enzymatic method, and to establish the postpartum progesterone profile using radioimmunoassay. The parameters recorded were within reference ranges which could suggest that the ewes were healthy in regard to lipid metabolism and liver function. The prepartum compounds did not significantly affect the postpartum progesterone pattern ( $P>0.05$ ). All biochemical parameters measured during peripartum did not significantly differ ( $P>0.05$ ) between ewes expressing a progesterone basal level lower than 1 ng/ml and those showing higher values indicating luteal activity ( $\geq 1$  ng/ml). Although, only total cholesterol on days 27 and 32 postpartum had shown a significant linear model ( $P<0.01$ ), suggesting a moderate variability of progesterone concentrations ( $r^2= 0.49$  and  $0.57$ , respectively), the relationship between blood parameters and plasma progesterone appeared to not follow a simple linear function ( $P>0.05$ ). It appears that, in healthy ewes, the peripartum changes in concentrations of plasma cholesterol and other blood tests did not predict significantly the postpartum progesterone kinetic.

**Keywords:** Cholesterol, Ewes, Liver function, Postpartum, Progesterone