

# LACTATION RELATED CHANGES OF HAEMATOLOGICAL PARAMETERS OF FEMALE DROMEDARY CAMELS REARED UNDER SEMI-INTENSIVE FARMING SYSTEM IN ALGERIAN EXTREME ARID REGION

Maria Chikha<sup>1</sup>, Tarek Khenenou<sup>1</sup>, Djalel Eddine Gherissi<sup>2</sup>, Rabah Mayouf<sup>3</sup>, Djallal Eddine Rahmoun<sup>2</sup>, Naif Al-Gabri<sup>4,5</sup>, Nacira Ramdani<sup>6</sup>, Anas Ayyad Abu-Sulik<sup>7</sup>, Hafiza Aidoudi<sup>1</sup> and Sabry Mohamed El-Bahr<sup>8,9</sup>

<sup>1</sup>Laboratory of Science and Techniques for Living, Institute of Agricultural Sciences and Veterinary Sciences, Mohamed-Cherif Messaadia University - Souk Ahras, BP 41000 Souk-Ahras, Algeria

<sup>2</sup>Laboratory of Animal Production, Biotechnologies and Health, Institute of Agricultural Sciences and Veterinary Sciences, Mohamed-Cherif Messaadia University - Souk Ahras, BP 41000 Souk-Ahras, Algeria

<sup>3</sup>Faculty of Biology, Echahid Hamma Lakhdar University, The new group BP 789, 39000 El Oued, Algeria

<sup>4</sup>Department of Pathology, Faculty of Veterinary Medicine, Tamar University, Yemen

<sup>5</sup>Laboratory of Salam Veterinary group, Al-Qassim, 51911 Buraydah, Saudi Arabia

<sup>6</sup>National Institute of Veterinary Medicine, 16000 Algiers, Algeria

<sup>7</sup>Faculty of Medicine, Jordan University of Science and Technology, P.O.Box 3030, 22110 Irbid, Jordan

<sup>8</sup>Department of Biomedical Sciences, College of Veterinary Medicine, King Faisal University, 31982 Al-Ahsa, Saudi Arabia

<sup>9</sup>Department of Biochemistry, Faculty of Veterinary Medicine, Alexandria University, 21526 Alexandria, Egypt

## ABSTRACT

Thirteen female camels were used in this study to investigate the changes in some haematological parameters during the different stages of lactation including early lactation, mid-lactation and the last stage of lactation. A significant decrease ( $P < 0.001$ ) in mid and late lactation, compared to early lactation was recorded for the following parameters: number of white blood cells, number of lymphocytes, number of monocytes, number of granulocytes, per cent ratio of lymphocytes and mean corpuscular volume. While, the levels of per cent ratio of monocytes, per cent ratio of granulocytes, red blood cells and haematocrit were low in early lactation then showed a significant raise in mid and late lactation ( $P < 0.001$ ). Moreover, The levels of mean corpuscular haemoglobin and mean corpuscular haemoglobin concentration were high during early lactation, then significantly decreased ( $P < 0.001$ ) in mid-lactation and then increased in late lactation. No significant difference was observed in mean corpuscular volume and haemoglobin concentration between early and mid-lactation. There was no significant difference in the number of platelets ( $p > 0.05$ ). The current study gives baseline data about the value change of the main haematological parameters during lactation in female camels in the Algerian desert and these results could be used as a database for the diagnosis of different disorders and also for upcoming research in camels.

**Key words:** Camel, blood analysis, haematology, lactation, physiology