

BIOMARKER BASED DIAGNOSIS- A BOON TO CAMEL MEDICINE

Research on biomarker-based diagnosis is becoming increasingly important for more accurate and efficient disease detection and monitoring of camel diseases. A wide range of biomarkers including cardiac, bone, inflammation, transport, stress, and pulmonary, which are used to reach towards a concrete disease diagnosis in camels. Myocardial damage in camels is assessed through cardiac biomarkers (cTnI and CK-MB), specially with cTnI showing higher specificity and sensitivity for myocardial injury. Serum amyloid A (SAA) and haptoglobin (Hp) are acute-phase proteins (APPs) that increase in response to infection and inflammation found in camel diseases, and other non-inflammatory stressors like physical stress or parturition. Increased levels of bone metabolism biomarkers, i.e. pyridinoline (PYD) in blood or urine are associated with bone resorption, indicating potential bone diseases in camels. Stress biomarkers are used to assess stress levels in camels, including those related to transport, racing or disease. Pulmonary biomarkers may also play important role in diagnosing pulmonary diseases in racing and other camels. Biomarker-based diagnosis is a cost effective and reliable tool to make disease detection more accessible, especially in remote areas or resource-limited settings. Machine learning algorithms can analyse biomarker data to identify patterns and improve diagnostic accuracy. Proteomics is emerging as a powerful tool for biomarker discovery in camel medicine, allowing the identification of disease-related proteins in biological fluids. Biomarkers ensure early disease detection, thus facilitate a timely and targeted treatment, leading to better clinical prognosis. It is opined that biomarkers contribute remarkably to camel welfare by allowing for proactive management and treatment of diseases. As the industry of camel products like milk and meat is growing fast, the biomarker-based diagnosis helps ensuring product safety and quality. The use of biomarkers in camel medicine not only helps in disease management but also helps to improve the camel health and productivity of camel related industries. Appropriate use of biomarker kits may improve the clinical outcomes in the field conditions also.

The current issue has good focus on the research of Bactrian camels. It involves research done by Chinese scientists on Bactrian camel whey protein powder which alleviates acute heat stress-induced kidney injury and apoptosis, decoding the cross-cultural symbolism of “Han Dynasty Nanyang Picture Stone Bactrian Camel” in the design of Chinese characters-implications for Chinese poster design, Bactrian camel milk and ancient Bactrian camel-shaped cultural relics. The dromedary research involves a study on Rift valley fever - a neglected pathogenic virus, effect of aluminium hydroxide as a conjugate to FSH for use in super-stimulation, endoscopic diagnosis and management of cases of oesophageal obstruction, structured camel milk therapy alongside an individualised botanical support protocol to facilitate immune modulation in a child diagnosed with pans/pandas co-morbid with lyme disease and autism, camel pastoralism, impact of refrigeration on the shelf life, biochemical and hygienic quality of raw dromedary camel milk. The series on “My Journey to Camel Science” has been participated with cherished notes by the Surong Hasi, Christina Adams and Tarun Kumar Gahlot.

I am happy to note that Journal of Camel Practice and Research is still a popular scientific periodical and authors engaged in camel research from various countries are publishing their research in this journal. I owe my sincere thanks to them.

Best wishes



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Editor