

## **Alterations of Malondialdehyde and Heat Shock Protein-27 in Sheep with Naturally Infected Liver Cystic Echinococcosis**

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**Abstract :** The present study investigates whether malondialdehyde (MDA) and heat shock protein-27 (HSP-27) are altered in sheep with cystic echinococcosis (CE). For this purpose, forty parasitized and thirty healthy sheep were selected based on severe cystic form observation in liver and lack of blood parasite along with no cystic conformation in carcass respectively. The results revealed a significant decrease ( $p < 0.01$ ) in albumin (Alb) and total plasma protein (TPP) and a significant increase ( $p < 0.01$ ) in HSP-27, MDA, total bilirubin and unconjugated bilirubin in the infected group compared with healthy ones. The results indicate low levels of TPP and Alb reveal liver damage in suffered sheep and MDA elevation demonstrates oxidative stress in infected group. In addition, HSP-27 enhancement may attribute to disease-induced stress conditions.

**Keywords :** malondialdehyde, heat shock protein-27, Echinococcosis, blood parasites

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