

SUMMARY

Determination of Cardiac troponins in lambs and kids with miyokardiyal damage

In this study, 18 diseased animal groups which died during the outbreak foot and mouth diseases in Aydın and around Aydın province were examined in 2011, and 10 control animal groups were used. Biochemical and pathological evaluations of myocardial damage which established with myocarditis and the correlations among this evaluations were presented in this study.

At the necropsy, Characteristic findings of FMD were detected in 3 of the animals and noncharacteristic finding were observed in 15 of them.

At the histological evaluations, epithelial cells of three animals which exist in epidermis of the buccal mucosa, gingiva and nail cross, had vacuolar and hydropic cell degenerations, edema which exists in the interstitium and vesicles. In the heart, some cells which were exposed to degeneration and necrosis, lost their nucleus or their nucleus had been exposed to pycnosis or karyorhexis. Inflammatory cell infiltration which involve lymphocytes, macrophages, plasma cells were seen among the muscle fibers. In the severe lesions muscle fibers were swollen and the cross striations disappeared. Satellite cells were seen in the periphery of myocytes.

At the histological evaluations, the significant reduction or total loss of cTnI expression were seen in the areas which had been exposed to degeneration and necrosis. Negative correlation which existed between the severe myocardial damage and immunolabeling score was shown. In addition, positive correlation which existed between the serum concentrations of cTnI and histological score was also shown.

As a result of biochemical, histological and immunohistochemical evaluations, the high serum concentrations of cTnI is significant data for myocardial damage in the lambs and kids. Elevated CK, CK-MB, LDH, AST, ALT, CRP activities supported this data as well.

Finally, serum cTnI concentrations can be used as sensitive and specific markers for myocardial lesions within animals having myocardial damage. cTnI may be an important first step to diagnose FMD- induced myocarditis

Key Words: Histopathologia, immunohistochemical, kids, lambs, myocardial damage, cardiac troponin, biomarker, laktat dehidrogenase, creatinin kinase, alanin aminotransferase, aspartat aminotransferase