

FATTY LIVER INFILTRATION AND ITS ESTIMATION METHODS*Kojouri, GH. A.*

School of Veterinary Medicine, Shahrekord University, Shahrekord, P. O. Box 115, IRAN.

Fax: 0098-381-4424412. E-mail: drgholam_alikojouri@yahoo.com

Fatty infiltration of the liver or Fatty Liver Syndrome is common in High-producing dairy cattle from a few weeks before and after parturition and is associated with several periparturient diseases. Ruminants may be prone to fatty liver because their hepatic tissue has limited capacity to export very low-density lipoprotein (1 and 2). The severity of fatty liver has been classified into severe, moderate and mild, based on the amount of triglyceride present in the hepatocytes. Some situations such as; TRP, mastitis, metritis and other infectious, non-infectious (LDA) and metabolic (Milk Fever) diseases may sensitize cow to fatty liver and vice versa. On the other hand, some cases that suffer from fatty liver syndrome has led to response poorly to specific standard treatment of initial diseases (ketosis). For this reason and to determine the frequency of syndrome in slaughtered dairy cattle and to compare two diagnostic methods, this research was done.

At the first step, history was taken from owners and previous diseases were mentioned. Carcasses were observed continually and pathological findings such as; mastitis (2%), TRP (4%), liver hydatid cyst (35%), fascioliasis (29%) and pneumonia (9%) were notice in 100 slaughtered dairy cattle (1 to 2 months after parturition) in Spring and Summer 1998. At the second step lipid content of liver was estimated by its specific gravity and compared the results with histopathological findings. Samples (approximately 1 cubic centimeter) were taken from liver and submersion into water (1.000) and copper sulfate solutions with specific gravity of 1.025 and 1.055. At the same time histopathological samples were taken for confirming fatty infiltration of the liver by the way of freeze sectioning and Oil Red O staining. Chi-Square test was used for statistical evaluation of fatty infiltration frequency and present diseases in carcasses at the level of $P < 0.05$. Liver samples were sunk in all three solutions and fatty infiltration was estimated as zero by this method, but histopathological findings indicated that frequency of fatty infiltration was 8%. There is no significant relation was observed between present diseases and fatty infiltration except for TRP.

Some investigators explained that the total amount of fat increase in the liver a few weeks before calving, rise to an average of about 20% (of wet weight basis) 1 week after calving and declines slowly to the normal level of less than 5% by 26 week after calving. In the present study the total amount of liver fat was estimated less than 13% and some workers indicated that this concentrations of liver lipid is inconsequential (1). These results somehow is in accordance with other workers (1).

References

- Radostits, O. M. et al (2000): Veterinary Medicine. A Textbook of the Diseases of Cattle, Sheep, Pigs, Goats and Horses. W.B. Saunders. PP: 1462-1466.
- Howard, J. L. and Smith, R. A., (1999): Current Veterinary Therapy 4, Food Animal Practice. W. B. Saunders. PP: 230-233.