Effects of dystocia, fetotomy and caesarian sections on the liver enzymes activities and concentrations of some serum biochemical parameters in dairy cattle.

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Abstract:

The aim of the present study was to determine the level of serum liver enzymes, triglyceride and some metabolites in cows with or without difficulties during parturition. The second goal was to compare between the possible effects of caesarian section and fetotomy on these parameters. A total number of 24 native breed cows at full term were included in this study. Out of them, 8 gave normal parturition, 16 cows were admitted with dystocia. The group of dystocia was subdivided into two groups; fetotomy (n=8) and caesarian (n = 8) group. In the caesarian group, 4 cows were with uterine torsion. Five blood samples were collected from each cow: directly pre-partum, during and just after delivery and at, 24, 48 and 72 h post-partum. Serum samples were used for determination of aspartate amino transferase (AST), glutamate dehydrogenase (GLDH), gamma glutamyl transferase (γ-GT), creatine phosphokinase (CK), glucose, total bilirubin, cholesterol and triglyceride. The results showed that AST, GGT, GLDH and CK activities were significantly increased in the group with caesarian sections due to uterine torsion than the control and fetotomy groups. There were insignificant changes in serum GGT and GLDH activities between control, fetotomy and dystocia group without uterine torsion at pre-partum and at 24 and 48 h post-partum. At 72 h post-partum, there was a significant increase in GLDH activity without significant increase in serum GGT activity. The concentrations of cholesterol and triglycerides did not differ in cows with dystocia compared to normal cows. In conclusion, cattle subjected to caesarian section and especially those with uterine torsion are associated with hepatic dysfunction. On the other hand, fetotomy has no effect on hepatocellular damage. The type of parturition has no effect on the bilirubin, cholesterol and triglyceride concentrations just before parturition to the 3rd day post-partum. It is recommended to supply cows with liver supportive therapy after caesarian section with uterine torsion.

Keywords:

Liver enzymes; Biochemical parameters; Dystocia; Fetotomy; Caesarian sections; Cattle

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