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The Evaluation of the New Bioartificial Liver Support System in Treating the Acute Liver Failure in Canines

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AIM To evaluate the efficacy and safety of the TECA-I Bioartificial Liver SupAIM To evaluate the efficacy and safety of the TECA-I Bioartificial Liver Support System (BALSS) in treating canines with acute liver failure (ALF).

METHODS 10 canines with ALF induced by 80% partial liver resection received BALSS treatment. Blood was perfused through a hollow fiber tube containing 1x1010 porcine hepatocytes. 4 canines with ALF were treated with BALSS without porcine hepatocytes and 5 canines with ALF received the drugs. Each treatment lasted 6 hours.

RESULTS BALSS treatment resulted in beneficial effects for partial liver resection-induced ALF canines with survival and decreased plasma ammonia, ALT, AST and BIL. There was an obvious decrease in PT level and increase in PA level, and there was no change in count of lymphocytes, immune proteins (IgA, IgG, IgM) and supplementary (C3, C4) levels after BALSS treatment. In contrast, for the canines with ALF in non-hepatocyte BALSS group and the drug group, there were no significant changes in ammonia, ALT, AST, BIL, PT and PA levels. The ALF canines in BALSS group, non-hepatocyte BALSS group and drug group lived respectively an average time of 108.0,12.0h, 24.0,6.0h, and 20.4,6.4h, and 3 canines with ALF in BALSS group survived more than 3 months.

CONCLUSION TECA-I BALSS is efficacious and safe for ALF canines induced by partial liver resection. port System (BALSS) in treating canines with acute liver failure (ALF).

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