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Bloodless Liver Resection using modified Electrocautery in the Goats

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Abstract
This study was designed to assess the feasibility and safety of partial hepatectomy by using thermal energy to resect and control bleeding. In addition, to investigate the effect of conventional surgery on the liver function test in the goat. Eight adult goats were used in this study. The goats were divided randomly into two groups. Partial hepatectomy was done by modified electrocautery in the first group, while simple interrupted mattress sutures were used in the second group. Hematological parameters were estimated for both experimental groups. The biochemical autoanalyzer were used to determine: alanine aminotransferase (ALT), aspartate transferase (AST) and alkaline phosphatase (ALP). The hematological parameters (PCV, Hb% and total leukocytic count) were estimated at zero, 1st, 2nd, and 3rd day of surgical operation. Gross necropsy and histopathological findings of the liver were also reported. The results showed that partial hepatectomy could perform successfully in goats by using modified electrocautery. At Post-surgical operation by electrocautery, the goats showed acceptable hematological and enzymes parameters, in addition, to the normal appetite and absence of complication and death due to hepatic resection .Necropsy findings showed normal healing of the operating site and an absence of adhesion and normal liver's color. There were no significant differences in the means values of the liver functions tests (ALP, AST and ALT). Moreover, there were no significance variations in hematological parameters (PCV, Hb% and WBC Count). In conclusion, this study showed that the application of modified electrocautery technique in partial hepatectomy revealed more feasible and safe method for the liver regeneration, proliferation of bile duct, decrease and absence of hematological side effect.

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