

Comparison between electrocautery and fibrin selant after hepatectomy in rats.

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Abstract:

OBJECTIVE: To compare between electrocautery and fibrin sealant hemostasis in rats after partial hepatectomy.

METHODS: we used 24 Wistar rats, which were submitted to 30% hepatic resection, divided into two groups of 12 animals each: Group Electrocautery and Group Tachosil(r). These animals were evaluated after three and 14 days. We assessed the presence of complications, laboratory tests and histological exam of the recovered liver.

RESULTS: the presence of abscess was more prevalent in the electrocautery group. The observed adhesions were more pronounced in the electrocautery group, both in frequency and in intensity, after three and 14 days. There were no deaths in either group. As for laboratory analysis, after three days the hematocrit was lower in the TachoSil(r) Group. The elevation of AST and ALT were more pronounced in the electrocautery group ($p = 0.002$ and $p = 0.004$) in three days. Histological analysis of specimens collected on the third day after surgery showed similar results in both groups for the presence of polymorphonuclear cells, whereas mononuclear was more evident in the TachoSil(r) group. We also observed that angiogenesis, although present in both groups, was more pronounced in the TachoSil(r) group ($p = 0.030$). However, on the 14th day angiogenesis was more pronounced in the electrocautery group, but without statistical significance.

CONCLUSION: hemostasis achieved by the groups was similar; however, the use of electrocautery was associated with infections, adhesions at higher grades and elevated liver enzymes.