UNIVERSAL REACTIVITY INDICATOR Fix IN EXPERIMENTAL OBSTRUCTIVE JAUNDICE IN MINI-PIGS

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Background: In obstructive jaundice, hepatocellular insufficiency greatly deteriorates the prognosis and raises the possibility of unfavourable consequences. Optimising post-operative immunocorrection is still crucial since the degree of immunological impairment is correlated with the severity of hepatic dysfunction.

The objective is to assess the impact of an immunomodulatory medication during the post-decompression phase and examine the status of non-specific reactivity after biliary decompression in a mini-pig experimental model of obstructive jaundice.

Supplies and Procedures: The research, which included 25 lab mini-pigs, was carried out at the RyazSMU WetLab between November 2022 and February 2024. The mice were split into two groups at random and given the immunocorrective medication aminodihydrophthalazindione sodium: a Control Group ($n=12$) and a Comparison Group ($n=13$). There were three phases of the study:

Stage I: The common bile duct is laparoscopically ligated to induce experimental obstructive jaundice.

Stage II: The ligature was removed on day seven, and there was a seven-day healing period after decompression.

Euthanasia is the third stage.

Along with excisional liver biopsies, blood samples were obtained at each step for clinical, biochemical, and immunological examination.

Results: Four standard criteria were evaluated in order to objectify liver morphology: hepatic lobule integrity, degree of bile duct proliferation, lymphocytic infiltration, and septal sclerosis. From the beginning of decompression until the end, the Control Group displayed progressive morphological damage. The development of false lobules, significant portal tract sclerosis, and widespread bile duct proliferation were all clearly correlated with fibrosis. Ten of the twelve control animals had a diagnosis of biliary cirrhosis. Only five of the thirteen animals in the Comparison Group, which received aminodihydrophthalazindione sodium, had early-stage biliary cirrhosis, indicating a more favourable morpho-functional condition. Additionally, the Comparison Group showed much quicker laboratory parameter normalisation.

Conclusions: Changes in non-specific reactivity markers are strongly correlated with morphological changes in the liver that occur within a week following bile duct closure. Aminodihydrophthalazindione sodium promotes quick normalisation of these parameters and enhances liver healing when added to the comprehensive treatment of the post-decompression phase.

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