IS-22  Mechanism and treatment of gastrointestinal dysfunction under the surgical stress or aggression

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Background and Aim: The vital reaction of the liver and skeletal muscle under which the living body receives any stress or aggression, has already been clarified. However, the study does not yet advance about disorders and reactions of the alimentary tract that it is thought that it has protein synthesis ability equal to that of a liver under the stress or aggression. Therefore we performed an experimental research to elucidate the mechanism and effects of gastrointestinal tract under pediatric surgical stress or aggression.

Material and methods: Male Sprague-Dawley rats were used for the experimental studies. A: Animals’ intestinal motility in environmental stress; continuous big noise or lightings all days, or surgical stress; laparotomy time, blood loss and ligation time of portal vein were recorded and analyzed electro myographically. B: Hepatic blood flow were compared under stress and aggression using a laser blood flow device. All animals underwent insertion of a fine silastic tube into cervical vein for the administration of LIPO-PGE1 and corticosteroids.

Results: In environmental stress or surgical invasion, intestinal motility and hepatic blood flow were decreased, and initiations and propagations of MMC’s activity were inhibited. By LIPO-PGE1 administration, the intestinal motility was kept in control and blood flow was maintained.

Conclusion: To protect the living body against the strong stress and aggression, both intestinal motility and blood flow have to be kept under control with the administration of LIPO-PGE1