4 - Veterinary Anatomy

PO-050 - (22720) - MORPHOFUNCTIONAL CHANGES IN THE BURSA OF FABRICIUS DURING LIVER REGENERATION

T. Abgaryan (Armenia)[1]; A. Grigoryan (Armenia)[1]; R. Shushanyan (Armenia)[1]; A. Karapetyan (Armenia)[1]

1 - Yerevan State University Research Institute of Biology

Tamara Abgaryan
Yerevan

Anna Grigoryan
Yerevan

Ruzanna Shushanyan
Yerevan

Anna Karapetyan
Yerevan

No conflict of interest

Liver regeneration is a multifactorial process closely linked to immune system activity. The bursa of Fabricius, a primary immune organ in birds, may play a role in this process. This study aims to investigate the morphofunctional changes in the bursa of Fabricius following partial liver resection.

Liver regeneration is a complex biological process involving immune, hormonal, and cellular changes. The bursa of Fabricius is responsible for B-lymphocyte maturation and responds actively to pathological and regenerative processes in the body. However, its role in liver regeneration remains insufficiently studied

Experiments were conducted on two-month-old Yerevan breed chicks. The animals underwent right liver lobe resection under general anesthesia. The chicks were euthanized on days 5, 10, 20, and 30 post-operation. Changes in bursa mass were analyzed, and histological studies were performed.
Following surgery, the bursa of Fabricius initially decreased in mass but increased by days 10–20, reaching a peak at 174% of the initial size. By day 30, its mass returned to baseline. Histological analysis revealed a decrease in lymphocyte count within follicles post-operation, indicating a stress response. However, lymphocyte levels subsequently recovered, and excessive growth was observed in follicle-associated epithelium, suggesting follicular activation.
The observed changes suggest a potential immunomodulatory role of the bursa of Fabricius in liver regeneration. This organ may contribute to immune homeostasis and liver regeneration, warranting further investigation in regenerative medicine

Palavras-chave : Bursa of Fabricius, Liver regeneration, immune homeostasis