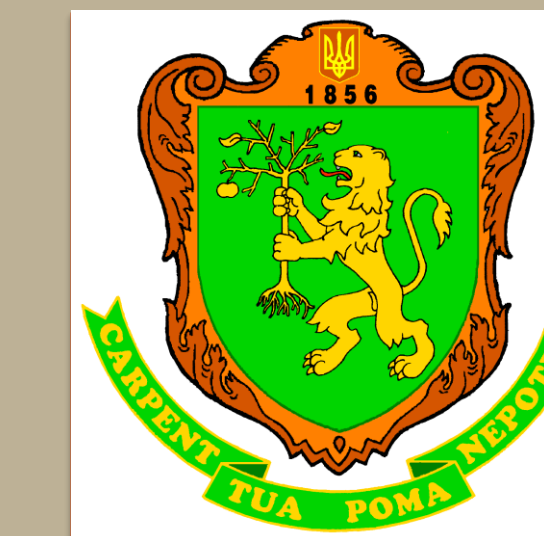


INFLUENCE OF IMMUNOTROPIC LIPOSOMAL PREPARATION ON FORMING OF IMMUNE RESPONSES IN WEANING-PIGLETS

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Introduction

Weaning from sows is stressful for organism of piglets that causes the changes in nonspecific and specific responses, harmful radicals accumulate in cells. In this connection, it is advisable for piglets in critical periods of development to use antioxidant and immunomodulatory preparations. In veterinary practice are used different pharmacological agents, the disadvantage of which are the short duration of action. Today it is more expedient to apply preparations in form liposomal emulsions. Liposomal preparations have a high therapeutic effect, prolonged action, economically advantageous and safe.

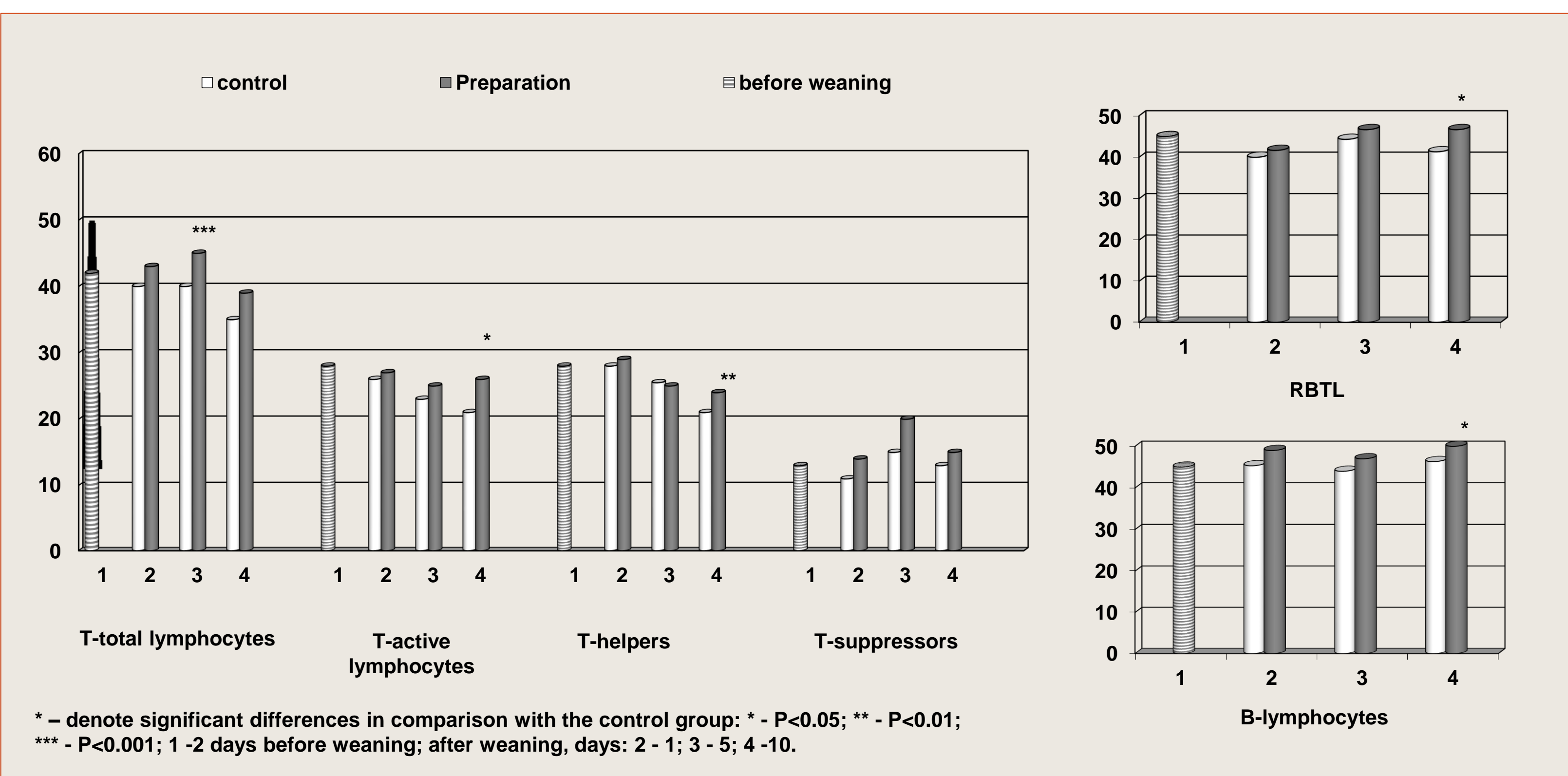
Results

Injections of fat-soluble vitamins, L-arginine, zinc, selenium and cobalt in composition of liposomal preparation assisted an increase the relative number of T-lymphocytes in blood of piglets. Reliable differences ($P < 0.05$ – 0.001) were obtained regarding the increase number of total lymphocytes in blood of piglets on the 5th and active lymphocytes on the 10th day after weaning.

There was a decrease the number of undifferentiated forms of active lymphocytes ($P < 0.05$) in blood of piglets experimental group, comparatively with control, on the 10th day after weaning. The relative number of T-helpers in blood of piglets experimental group increased on the 10th day after weaning. Introduction of preparation on the 10th day after weaning strengthened ($P < 0.05$) the functional activity of lymphoid cells of piglets involved in RBTL. Preparation assisted an increase the relative number of B-lymphocytes in blood of piglets on the 10th day after weaning ($P < 0.05$).

Material & Methods

The experiments were carried out on two groups of piglets-analogues. Piglets of control group were injected of isotonic sodium chloride solution and animals of experimental group – liposomal preparation in a dose of 0.1 ml/kg body weight 2 days prior to weaning. The preparation is based on vitamins A (9000 IU), D₃ (11000 IU), E (9.0 mg), L-arginine (18.0 mg), zinc (9.0 mg), selenium (0.1 mg) and cobalt (3.0 mg). The material for research served as the lymphocytes isolated from blood of piglets 2 days before and on the 1st, 5- and 10th days after weaning. The total number of T-rosette-forming cells and their subpopulations were determined in blood. The immunoregulatory index was determined by the ratio of helpers to suppressors, the functional activity of T-lymphocytes was estimated in reaction of blast transformation lymphocytes (RBTL). B-lymphocytes were determined in reaction of complementary rosette formation.



Conclusions

The results indicated a stimulating effect of components liposomal preparation on activity of regulatory subpopulations T- and B-lymphocytes. Preparation increases the functional activity cellular link of immunity and positively influences on forming immune potential of weaning-piglets.