SUMMARY

The study aimed to investigate local immune focuses in the peritoneal cavity of the rats and quails.

For this purpose, 8 weeks old 48 male Wistar rats and Japanese quails (Coturnix coturnix japonica) were used. Animals of both arts divided into subgroups. One groups received 80 mg BSA (Bovine serum albumin-BSA-Sigma) dissolved in 0.1 ml 0.9% NaCl intraperitoneally. Second groups received the same amount NaCl solution. Another groups with no application of BSA or NaCl served as controls.

At the 1, 3, 6 and 24 h after injections 6 animals from BSA injected groups and 3 animals from NaCl injected groups from both species were scarified. Parietal peritoneum and mesentery samples from quails, and parietal peritoneum, mesentery and omentum majus samples from rats were collected. Similarly, tissue samples from 3 animals in control groups were also taken. Triple staining technique, Periodic Acid Schiff (PAS) reaction, Methyl Green Pyronin, Toluidin blue (pH:2,5) staining method, and for the demonstration of macrophages Strept Avidin-Biotin Peroxidase Compleks method were applied on the 6 µ thick serial sections with 50 µ intervals taken from prepared blocks.

The aggregation areas of the lymphoid cells were calculated on the omentum sections of rats and mesentery sections of quails at X40 magnification with help of the system (Leica DMLB research microscopy and DC 200 CCD camera with Q Win Standard image analyzer program) by the interactive rout.

Prepared sections were investigated with light microscopy, and if necessary, photographed by the research microscopy with help of image analyzer system attached to it. Local immune focuses were seen as locale lymphoid cell aggregations in the omentum,

mesentery and parietal peritoneum in rats, whereas in quails they were only seen in mesentery.

It was observed that in omentum samples of rats the lymphoid cell aggregates were not surrounded by a capsule, there were capillaries, they had some connective tissue and included fatty cells in their structure. There dimension was in mean 12193.42±25 µm2. On contrary, lesser lymphoid cell aggregates with smaller dimensions were observed on mesentery and parietal peritoneum. PAS reaction revealed the absence of the basal lamina
in the regions where lymphoid cell aggregates were located. Lymphocytes, macrophages, plasma cells and mast cells were detected on the lymphoid cell aggregates of omentum, mesentery and parietal peritoneum samples.

In BSA-injected group of rats the differences were significant at the 6th and 24th hours ($p<0,001$).

The dimensions of the lymphoid cell aggregates on the mesentery samples of quails were in mean 2492,14±32 µm2. There was no lymphoid cell aggregate on parietal peritoneum samples. PAS reaction revealed the absence of the basal lamina in the regions where lymphoid cell aggregates were located. In the cell aggregates found on mesentery samples no plasma cell was detected, but lymphocytes, mast cells and macrophages were.

It was seen that when compared to controls the lymphoid cell aggregates increased in BSA-injected group of quails after 1 hour of injection ($p<0,01$).

As a result, it was determined that both in rats and quails lymphoid cell aggregates are present in the abdominal cavity (in omentum, mesentery and parietal peritoneum) and they react to antigenic stimulation. It was decided that these focuses are of secondary characteristic. However, studies with different antigens have been seen as necessary to make a definite decision in quails.

Key words; Milky spot, rat, quail, omentum, mesentery, parietal peritoneum, secondar lymphoid focuses, antibody, bovine serum albumin.