between cholesterol in blood and count of TE (r = 0.65; $p < 0.05$). Cholesterol was lower in group B than in group A (4.2 ± 0.79; 5.2 ± 1.16 mmol/L, respectively). Conclusions: Despite of a small number of gene-fond animals, it seems not profitable to introduce MO in cows with elevated SCC, because fewer pregnancies resulted out of the transfer of their embryos.

P108 | Effect of iron and silver nanoparticles on boar semen kinetics

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The aim of the study was to examine the possible toxic effect of Fe3O4 and Ag/Fe spherical nanoparticles (NPs) as alternative antimicrobial agents on boar semen. The NPs' minimum inhibitory concentration was used after in vitro antimicrobial activity assessment. Nine ejaculates (3 boars; 3 ejaculates/boar) were extended in Beltsville Thawing Solution (BTS; without antibiotics) at a concentration of 30 × 106 spermatozoa/ml and divided in 3 aliquots [group C: control; group Fe: semen with Fe3O4 NPs of diameter 40 nm (0.192 mg/ml semen); group Ag: semen with Ag/Fe NPs of diameter 30 nm, consisted of Ag and a 5% of zero-valent Fe (0.128 mg/ml semen)]. The aliquots were incubated at 17°C for 30 min following NPs' removal through a magnetic field. All post treated samples were stored at 17°C for 48 h. Total motility (TM) and kinetics (progressive motility PM; rapid R; medium; slow; VCL; VSL; VAP; LIN; STR; WOB; ALH; BCF; hyperactivation) were evaluated by CASA at 0, 24 and 48 h post treatment. Data were analyzed with a repeated measures mixed model. Group Fe did not differ from group C at any time point. TM and PM were lower at 24 h of storage in group Ag compared to groups C and Fe (all $p < 0.001$). By 48 h sperm aliquots of group Ag were dead and thus excluded from analysis. The comparison within groups and between storage time points showed that TM, PM, VCL and ALH decreased after 24 h of storage in group Ag (all $p < 0.001$), but not in groups C and Fe. The remaining parameters did not differ significantly between successive time points within any group ($p > 0.05$). In conclusion, Ag/Fe NPs exerted a harmful effect on boar spermatozoa, while the used concentration of Fe3O4 NPs did not affect boar sperm enhancing further research about their application on semen processing.

P109 | Indicators of protein metabolism and serum transferase activity in Holstein breed cows in the dynamics of the postpartum period and lactation

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The aim of the study was to identify changes of protein level in cows' blood, the final products of its metabolism, urea, creatinine, mean molecular peptides (MMP) and enzymes alanine aminotransferase (ALT), aspartate aminotransferase (ASAT), gamma-glutamyltransferase (GGT) activity when restoring ovarian cyclicity and during the folliculogenesis suppression in ovaries. Blood for the research was obtained from animals (n = 16) on days 6, 12, 19, 40, and 68 after calving. Median samples were compared by Wilcoxon test. It was established that the total protein content in the blood serum of cows with restored ovarian cyclicity and ovulation (n = 8) increased from 74.2 ± 1.16 g/L at the beginning of lactation to 87.3 ± 1.36 g/l (by 17.6%) by day 68, urea from 4.01 ± 0.35 mmol/L to 5.43 ± 0.26 mmol/L (by 35.4%), MMP from 0.723 ± 0.33 units to 1.104 ± 0.063 units (by 58.2%), and creatinine decreased from 77.4 ± 4.94 μmol/L to 61.6 ± 2.73 μmol/L (by 20.4%). ALT activity was at the level of 16.1 ± 2.12–16.6 ± 2.68 U/L until the 19th day of lactation, by day 40 it increased by 27.7% and by day 68 by 65.7%. GGT activity increased by 69.5% (from 14.6 ± 1.26 to 23.5 ± 2.02 U/L). In ASAT, there were no significant changes. The same dynamics of the studied blood parameters were detected in cows with suppression of folliculogenesis in the ovaries (n = 8). But in the first 40 days, it was characterized by a significant ($p < 0.05$) increase in the urea content (by 14.4–15.2%), creatinine (by 13.3–16.7%), GGT activity (by 16.5–25.7%) and ALT (by 11.1–16.6%), which reflects the increased activity of tissue catabolism of proteins, accompanied by the accumulation of ketogenic amino acids and pituitary-adrenal system pressure. This may be one of the factors blocking the generative function of the gonads.

P110 | Effect of sodium hyaluronate on postthaw sperm quality and fertility of frozen-thawed (FT) boar semen

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The objective of the study was to evaluate the effect of sodium hyaluronate (HA) on the quality and fertility of frozen-thawed (FT) boar spermatozoa. Only ejaculates with progressive motility (PM)