Hematological values in red deer (*Cervus elaphus* L.) hinds after anesthesia and reversal

Neška Vukšić¹,², Tihomir Florijančić¹, Ivica Bošković¹, Tomislav Šperanda², Dinko Jelkić³, Mislav Đidara¹, Marcela Šperanda¹

¹University Josip Juraj Strossmayer in Osijek, Faculty of Agriculture, Kralja Petra Svačića 1d, Osijek, Croatia (marcela.speranda@pfos.hr)
²Medical-Intertrade, Franje Tuđmana 3, Sveta Nedelja, Croatia

Summary

Wild animals, like hinds, may need to be immobilized for a variety of reasons. During the anesthesia, blood cells counts is changing, which is very important for the specific situation during and after embryo transfer. The objective of this study was to determine hematological values, differential blood cell count in the venous blood of hinds before intravenous anesthesia by xylazine, ketamine, tiletamine-zolazepam solution, 30 minutes after anesthesia and after atipamezol reversal. Investigation was conducted on 26 hinds of red deer. Animals were prepared for the embriotransfer surgery and the mixture of ketamine, xylazine, tiletamin and zolezepam has been applied. Blood was collected immediately after physical restraining, 30 minutes after anesthesia and after Antisedan® application. Blood samples were obtained from the jugular vein using a Venoject® vacutainer, 2 ml with EDTA as anticoagulant. Instrument Sysmex poch-100iV was used for determination of the hematological parameters and blood cells count. Differential leucocyte counts were determined on blood smears prepared according to Pappenheim. Significantly (P<0.01) lower WBC and RBC values had hinds after anesthesia and after antidote as well, despite to trend of rising towards values before anesthesia (WBC 8.63: 6.46:7.44 x10⁹L⁻¹; RBC 11.92:9.42:8.42). Hemoglobin concentration was also lower after anesthesia and after reversal, but MCHC was higher after reversal. Share of neutrophils and lymphocytes is significantly (P<0.001) increased after anesthesia and after antidote. Hinds showed lower percentage of monocyte and eosinophil in all groups. Although the sudden changes in blood cells count happened after xylazine, ketamine, tiletamine-zolazepam solution mixture, all parameters were within the reference range. An evident sign of stress was present, but it lasted for a short time, so it can be that mixture used for anesthesia had no detrimental effect on further surgery course.

Key words: red deer, anesthesia, blood cells count, surgery preparation