MORPHOMETRIC ANALYSIS OF THE OPTICAL PARAMETERS OF THE EYE IN PIGS AND PIGLETS

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Abstract. Correlations and parameters of the optical components of the eye in adult pigs aged 6–8 months (n=12) and 2 days old piglets (n=12) were investigated. A-type ultrasound method was implemented for enucleated eyes. The age of the animals was statistically reliably related to the structures of eye optical components – length of eye axis, deepness of camera anterior, thickness of the lens and eye vitreous axis length ($p<0.001$). Statistically positive and meaningful correlation coefficients were established for camera anterior depth with eye axis length, thickness of the lens and eye vitreous axis length, and also eye axis length with thickness of lens and eye vitreous axis length ($r=0.924$-0.968; $p<0.001$). The thickness of cornea with the length of eye axis, depth of anterior camera, and vitreous axis length ($r=-0.398$-0.464; $p<0.05$) correlated negatively but statistically significantly. We determined that the age of pigs influences the internal relations of eye optical components structures, especially the correlations between eye axis length and anterior camera depth, thickness of cornea and lens, vitreous axis length and anterior camera depth, and lens thickness and vitreous axis length. Least related with age were correlations between eye axis length and corneal thickness, eye axis length and vitreous axis length, and anterior camera depth and lens thickness.

Keywords: piglet, pig, eye optical system.