

OPTICAL DENSITY OF CORTICAL BONE MATRIX IS DIMINISHED IN EXPERIMENTALLY INDUCED OSTEOPOROSIS

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Osteoporosis is characterized by low bone mineral density (BMD) and abnormalities in bone structural and material properties, with unexplained low trauma fractures. The aim of the present study was to quantify the optical density of cortical bone matrix in rats with experimentally induced osteoporosis by ovariectomy. The experimental group was divided in two equal subgroups, the first sacrificed in the third month after ovariectomy and second sacrificed in the fifth month after ovariectomy. After decalcification, on routinely stained histopathologic sections optical density (OD), standard deviation of OD, mode OD, minimal and maximal OD of cortical bone matrix were estimated. Mean optical density and mode optical density of cortical bone were statistically higher in the control than in the experimental group ($p < 0.05$). Maximal optical density of cortical bone was significantly lower in rats three months after ovariectomy than in other groups.

Obtained results indicate that in experimentally induced osteoporosis the optical density of cortical bone matrix is diminished, similarly to low bone mineral density. *Acta Medica Medianae* 2016;55(2):35-39.

Key words: osteoporosis, bone matrix, density