Purpose. The aim of this study was to evaluate the serum levels of IL-1β and of the TNF? in pre and postmenopausal women, as well as to investigate the relationship between this cytokines and bone mineral density. Methods. The study included 150 women divided into 4 study groups. Serum levels of IL-1β and TNF? were determined using multiplex cytokine kits, using LUMINEX 200 dual-laser system. BMD was measured by DXA at the level of the hip and lumbar spine. Results. Serum concentration of IL-1β is significantly higher in natural and surgically induced menopausal women, compared to women in the control group. Serum levels of TNF? in postmenopausal women and with surgically induced menopause are significantly higher than in fertile and premenopausal women. Serum levels of IL-1β are significantly higher in patients with osteopenia and osteoporosis compared to patients with normal BMD values. A negative correlation was found between serum levels of IL-1β, TNF? and BMD in pre and postmenopausal women, and in women with surgically induced menopause. Conclusions. Serum levels of IL-1β and TNF? are significantly higher in menopausal women compared to fertile women. IL-1β is significantly higher in patients with osteopenia and osteoporosis than in women with normal BMD values, and IL-1β and TNF? associate negatively with BMD in pre and postmenopausal women, as well as in women with surgically induced menopause.

Key words: menopause, interleukins, bone mineral density, osteoporosis and steroid hormones