Serum levels of IL-1α, IL-6, IL-10 and IL-1 receptor antagonist (IL-1Ra) and their predictive value for the development of late perinatal complications were studied in very preterm infants. It was found that newborns who develop bronchopulmonary dysplasia (BPD) and periventricular leukomalacia (PVL), in the first week of life showed a significant increase in both pro-(IL-6), and anti-inflammatory cytokines (IL-1Ra, IL-10) compared with children who do not have these complications. On the third or fourth week of life, patients with PVL and BPD maintain high levels of IL-6, IL-10 and IL-1Ra, indicating the contribution of perinatal bacterial infection in the development of PVL and BPD and continued immunosuppression. In the first week of life, the levels of IL-6 and IL-1Ra are of prognostic value, their high levels directly correlate with the development of BPD and PVL. (Cytokines and inflammation. 2012. Vol. 11. № 2. P. 68–72.)

Key words: cytokines, premature newborns, periventricular leukomalacia, bronchopulmonary dysplasia.