**EFFECT OF EARLY ADMINISTRATION OF CAFFEINE AND LOW-DOSE
HYDROCORTISONE ON TRACHEAL ASPIRATE INTERLEUKIN (IL)- 8 AND IL-10 LEVELS IN
VERY PRETERM INFANTS**

D. Dobryanskyy¹, O. Borysiuk^{1,2}, Z. Salabay², Y. Dubrovna²

*¹Paediatrics, L'viv National Medical University, ²Neonatal Intensive Care Unit, L'viv Regional Clinical
Hospital, L'viv, Ukraine*

Caffeine and steroids have been linked to a decrease in the incidence of bronchopulmonary dysplasia (BPD) in extremely premature infants, and one of the possible mechanisms of their action could be modulation of inflammation. In a randomised study we evaluated the effect of early administration of caffeine and hydrocortisone on tracheal aspirate (TA) IL-8 and IL-10 levels.

Methods: 100 very preterm newborns on mechanical ventilation were randomly assigned on the first day of life to one of the 2 groups depending on administration of caffeine and hydrocortisone. 46 infants with gestational age of 27,89 (1,95) wks. were treated and 54 newborns of 28,32 (1,83) wks. formed the control group. TA was taken at enrolment and after about 55 hrs. of treatment. Cytokine levels in TA were determined with enzyme-linked immunosorbent assay.

Results: Initial values of interleukins were similar in the both groups but at mean age of approximately 65 hrs. IL-8 and IL-10 concentrations were significantly lower in infants treated with caffeine and hydrocortisone (26205,00 pg/mL [IR - 880,00] and 129,95 pg/mL [IR - 129,95] vs. 26896,71 pg/mL [IR - 461,29] and 483,88 pg/mL [IR - 303,88] accordingly; $p < 0,001$). The reliable reduction of IL-8 content was observed in treated infants and significant increase of IL-10 concentration was found in control newborns. It was no significant difference in BPD rates between the groups.

Conclusions: Our data suggest that early administration of caffeine and hydrocortisone may inhibit production of IL-8 and IL-10 in immature lungs not preventing, however, BPD development.