Body: Background: Epidemiologic studies have suggested that aerobic exercise decreases asthma prevalence and severity, improving aerobic capacity. However, the effects of high intensity exercise during sensitization on lung inflammation in asthma are still unclear. Objective: To evaluate the effects of high intensity exercise during sensitization process on lung inflammation in an experimental model of allergic pulmonary inflammation. Methods: Male Swiss mice were divided into 4 groups: mice non-sensitized, non-exposed to ovalbumin (OVA) or submitted to exercise (Control, n=12); animals submitted to swimming (30 min/day for 21 days) (Exercise, n=7); animals OVA-sensitized (OVA 10 µg) and exposed to aerosolized OVA 1%, (30 min, each 48 hours during four days) (OVA, n= 9) and animals sensitized, submitted to swimming and exposed to OVA (OVA+Ex, n=11). 48 hours after last exposure to OVA/saline, anesthetized mice were euthanized and we performed measures of total inflammatory cells from bronchoalveolar fluid (BALF), IL-4, IL-5, IL-10, IL-1ra and immunoglobulin IgE by enzyme-linked immunosorbent assay (ELISA). Results: Swimming sessions decreased total number of cells from BALF, as well as IgE, IL-4 and IL-5 levels in OVA sensitized and challenged mice (p<0.05). On the other hand, levels of IL-10 and IL-1ra showed a decrease in OVA+Ex group when compared with OVA group (p<0.05). Conclusion: In this experimental model exercise decreased pro-inflammatory cytokines, but also decreased regulatory/anti-inflammatory cytokines, maybe suggesting that during high intensity exercise, anti-inflammatory effects are not mediated by regulatory cytokines in sensitization process in allergic pulmonary inflammation.