

RELATIONSHIP BETWEEN ACUTE PHASE PROTEINS AND SUBSEQUENT FERTILITY OF DAIRY COWS AFTER POSTPARTUM UTERINE INFLAMMATION AND HEALTHY COWS

Julia Jeremejeva^{1*}, *Toomas Orro*², *Kalle Kask*¹

¹*Department of Therapy,* ²*Department of Animal Health and Environment,*
Institute of Veterinary Medicine and Animal Sciences, Estonian University of Life Sciences
Tartu 51014, Estonia; E-mail: tjulia@emu.ee; toomas.orro@emu.ee; kalle.kask@emu.ee

**Corresponding author:*

Tel.: +372 53332242; E-mail: tjulia@emu.ee
Postal address: Kreutzwaldi 62, Tartu 51014, Estonia

Abstract. The aim of this study was to evaluate the potential relationship between concentrations of serum amyloid A (SAA), haptoglobin (Hp), fibrinogen (Fb), and fertility parameters of treated and positive control animals with acute puerperal metritis (APM), clinical metritis (CM) and healthy cows.

Animals with CM and CE were assigned to treatment and control groups. A negative control group was composed of healthy cows. Measurements of acute phase proteins (APP) were done once a week for seven weeks postpartum (PP). Fertility data were recorded.

The first insemination after 90 days PP was correlated with increased APP levels during the first week PP. The failure of insemination until the 150th day PP and a lower first service conception rate were associated with an increase in APP concentrations at the end of the experimental period. Existence of APM or CM and treatment groups had no effect on the association between APP and fertility parameters.

The results indicate that the acute phase reaction reflected in concentrations of APP in plasma during the PP period could be related to the fertility of dairy cows with APM, CM and healthy cows.

Keywords: dairy cow, fertility, fibrinogen, haptoglobin, serum amyloid A