Short Communication

Histopathological examination of ovaries in bitches after experimental zearalenone mycotoxicosis

M. Gajęcka, K. Obremski, E. Jakimiuk, E. Skorska-Wyszyńska, Ł. Zielonka, M. Gajęcki

Division of Veterinary Prophylaxis and Feed Hygiene,
Department of Veterinary Protection of Public Health,
Faculty of Veterinary Medicine,
University of Warmia and Mazury in Olsztyn, Oczapowskiego 13, 10-718 Olsztyn, Poland

Abstract

The present study deals with the influence of experimental ZEA mycotoxicosis on histopathological lesions in ovaries of bitches, which were administered zearalenone per os during anestrus phase for one hundred days. The experiment was performed on 9 sexually mature, clinically healthy bitches. The animals assigned into two experimental groups received zearalenone per os at two doses, 25 µg/kg b.w. and 50 µg/kg b.w., respectively: the bitches from control group received placebo per os. On the last day of zearalenone intoxication, the bitches were ovariohystorectomized. Histopathology and immunohistochemistry were performed. The study revealed that zearalenone and its metabolites caused profound regressive lesions: granular cells degeneration and atrophy. Numerous edemas and blood extravasations were also found. The intensity of these changes was significantly dose dependent. Furthermore, in ovarian cells and tissues of both experimental groups, no reaction for PCNA antigen was observed. In conclusion, zearalenone and its metabolites exerts unfavorable effects on the morphology of ovaries in bitches.

Key words: zearalenone, bitch, uterus, histopathology

Introduction

Among numerous disease entities, which concern large and companion animals and more attention are paid to mycotoxicoses. Mycotoxicosis is a problem known for a long time and zearalenone mycotoxicosis is one of them (Fink-Gremmels and Malekinejad 2007). It is a disease, which causes mainly reproductive system disturbances and is a significant problem, especially in monogastric animals breeds (Zinedine et al. 2007).

Reproductive tract disorders, like prolonged estrus, ovarian cysts and others are relatively frequent (Zanghf et al. 2007).

The aim of the study was to evaluate histopathological changes in ovaries of bitches which were administered zearalenone per os for 100 days.