

**STUDY OF CEFAPIRIN RESIDUES IN MILK FROM COWS
AFFECTED BY VARIOUS FORMS OF ENDOMETRITIS
AFTER THEIR TREATMENT BY THE MEDICINAL PRODUCT *CEFMETRIN***

A. Berezovskyi, A. Obrazhei
bav13@meta.ua

Brovapharma Ltd., Brovary, Kyiv region, Ukraine

The purpose of the research was to establish the withdrawal period of the residues of the medicinal product *Cefmetrin* with milk after treatment of cows affected by various forms of endometritis.

Cows affected by acute and subclinical endometritis (5 animals in each group) were injected into the uterus with the medicinal product *Cefmetrin* at a dose of 19 g (the contents of one syringe dispenser) using a catheter. A single dose contained 500 mg of cefapirin administered in the form of 640 mg of cefapirin benzathine. Milk was collected from cows of two groups within six milkings in a row (for 3 days). The first selection of milk was carried out in 6 hours after the injection. A study of the content (availability) of β -lactam antibiotics in the selected milk was carried out using the *4 Sensor Ultra test kit* for immunoreceptor determination of β -lactams, tetracyclines, streptomycins and chloramphenicol in mixed milk samples. 0.2 ml of milk was added to a well with the prepared reagent, mixed, kept for 3 minutes and then a test strip was inserted into the well and kept for about 7 minutes until color reactions appeared on it. The sensitivity of the *4 Sensor Ultra test kit* for determining cefapirin was 10–20 $\mu\text{g/l}$ of milk, it is 3–6 times less than MRL of cefapirin in milk for human consumption adopted in the European Union.

It was found that all milk samples that were taken within six milkings in a row for 3 days after intrauterine administration of *Cefmetrin* did not contain residues of β -lactam antibiotics and other antibiotics, including residues of cefapirin with its possible metabolites.

Milk from all cows affected by various forms of endometritis, which were injected into the uterus by *Cefmetrin* once at a dose of 19 g (the contents of one syringe dispenser) containing 500 mg of cefapirin administered in the form of 640 mg of cefapirin benzathine according to the requirements of the package-leaflet, did not contain residues of β -lactam antibiotics within all six milkings for 3 days, including cefapirin with its possible metabolites. On the basis of the conducted research, it was concluded that it is not advisable to establish a withdrawal period for the milk from cows affected by various forms of endometritis, which are injected *Cefmetrin* in the recommended therapeutic dose.

Keywords: COWS, RESIDUES, CEFAPIRIN, ENDOMETRITIS