P4-21

GONADOTROPHIN PROFILES AND OVULATION RATE OF COWS PASSIVELY IMMUNIZED AGAINST BOVINE FOLLICULAR FLUID

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INTRODUCTION

There is evidence that the ovulation rate in heifers can be increased by active or passive immunization against specific substances that control the release of endogenous FSH, such as the inhibin present in the follicular fluid. This study investigated whether passive immunization against steroid-free bovine follicular fluid (bFF) affected gonadotrophin concentration and ovulation rate in non-lactating Mantiqueira cows (a Brazilian breed).

MATERIALS AND METHODS

On days 8 to 12 after synchronized oestrus, five cows (group 1) were passively immunized against bFF antisera raised in castrated ewes while five control cows (group 2) were treated with serum of non-immunized castrated ewes. Forty eight hours later, the cows received a luteolytic dose of cloprostenol. The number of ovulations (corpora lutea) was recorded by ultrasound scanning ten days after the cloprostenol injection. Blood samples were collected for luteinizing hormone (LH) and follicle-stimulating hormone (FSH) determination by RIA.

RESULTS AND DISCUSSION

Two cows of the immunized group showed >1 ovulation (two and three ovulations, respectively) and three cows had a single ovulation, while all the cows of the control group had a single ovulation (Table 1). Mean concentration of FSH and LH were unaltered by the anti-bFF or ovine serum injection. There was no significant difference in the preovulatory and postovulatory FSH or LH concentrations between control and immunized cows. We conclude that passive immunization against bFF results in a variable response in increasing ovulation and that increased ovulation rate is not associated with detectable changes in FSH or LH concentrations.

Table 1: Number of ovulations found in control and passively bFF-immunized cows following ovulation induction with cloprostenol

	Number of ovulations			Ovulation rate
	1	2	3	(mean ± sem)
Control (n=5)	1	2	3	1.0±0.0
Immunized (n=5)	3	1	1	1.6±0.6

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