CHANGES IN SOME HEMATOLOGY PARAMETERS IN A GROUP OF CATS DURING THE LAST THIRD OF PREGNANCY AND THE EARLY POSTPARTUM PERIOD

Plamen Georgiev *, Petko Petkov**, Krasimir Stojanchev**, Anton Antonov*

** Department of obstertrics, gynaecology and andrology, Faculty of Veterinary Medicine, Trakia University, Stara Zagora, Bulgaria*

*** Department of internal disease and clinical toxicology, Faculty of Veterinary Medicine, Trakia University, Stara Zagora, Bulgaria*

INTRODUCTION

- LATE PREGNANCY, PARTURITION AND POSTPARTUM PERIOD
  - HORMONAL CHANGES
  - UTERUS↔ PLACENTA, disconnection; metritis
  - DYSTOCIA
  - MAMMARY GLAND → onset of lactation (production of colastra), mastitis
  - OTHER CHANGES – behavioral, metabolic…..
- THE POSTPARTUM PERIOD IN THE CAT – paucity of information in the literature

UTERINE CONDITIONS - INFLAMATORY DISEASE

INTRODUCTION

- MOST COMMON CLINICAL APPROACHES TO DIAGNOSING FEMALE REPRODUCTIVE SYSTEM DISORDERS ARE :
  - Palpation
  - Radiographic
  - Vaginal discharge, cytology
  - Ultrasonographic
  - Hematological examination – routine study

- THERE IS ONLY TWO STUDIES INVESTIGATED THE NORMAL HEMOGRAM OF THE CAT DURING PREGNANCY AND LACTATION AND AFTER LACTATION - MIELKE (1961); BERMAN, E. (1974)

THE AIM OF PRESENT STUDY WAS TO INVESTIGATE THE DYNAMIC OF HEMATOLOGY PARAMETERS IN A GROUP OF CATS THROUGHOUT THE LATE PREGNANCY AND THE EARLY POSTPARTUM PERIOD

MATHERIALS AND METHODS

- ANIMALS – 12 CLINICALLY HEALTHY FEMALE AND 3 MALE CATS

Determination of the groups

Female - two goups

group I - examenated (n=6)

on day 25 after mating – pregnancy diagnosis ultrasound scanning of the uterus-Aloka SSD 500, linear transducer, 5 MHz

Blood samples on days: 45, 50, 55, 60, 65, 70 after mating

group II - control (n=6), non-pregnant, blood samplies only once

Blood collection from vena jugularis, tubes containing Na_2EDTA

MATHERIALS AND METHODS

- MEASURED PARAMETERS

Erythrocytes count (RBC; T/L),
Leucocytes count (WBC; G/L),
Hemoglobin (HGB; g/L),
hematocrit (HCT; g/l),
Mean cell volume (MCV; fl)

automatic analyzer SERONO 150 (Bio Chem ImmunoSystems (GmbH, Deutschland)

percentage of neutrophilis (Mm, St, SG), lymphocytes (L), monocytes (Mo), eosinophilis (Eo)

Statistical analysis:

- Statistical software- Microsoft Office Exel 2003.Ink, ANOVA
- T – test
- The level of significance was set at $P < 0.05$

Hematology parameters in the cats – examenated and control groups

Parameter Referent values	Day 45	Day 50	Day 55	Day 60 DELIVERY	Day 65	Day 70	Group II	P
RBC (5-10x10¹²/l)	7,8 ± 1	7,3 ± 0,5	6,2 ± 1,3	6,1 ± 1	6,2 ± 0,6	6,3 ± 0,4	9,2 ±1,6	p<0,01
HGB (90-150 g/l)	115,5 ± 8,5	108,8 ± 12,9	94, 7 ± 11,2	100,8 ± 29,6	94,3 ± 11,1	101 ± 8,7	120±10	p<0,01
HCT (0,25-0,45 l/l)	0,34 ± 0,03	0, 33 ±0,04	0,32 ± 0,03	0,29 ± 0,05	0,31 ± 0,04	0,31 ± 0,02	0,38±0,03	p<0,01
MCV (39-55 fl)	44,3 ± 2,4	42,8 ± 9,8	51,4 ± 7,2	47,5 ± 2,2	50,4 ± 6,4	48,3 ± 2,3	41,3±3,8	p<0,01
WBC (6-11x 10⁹/l)	17,1 ± 8,9	14,6 ± 4,0	17,8 ± 6,5	18,1 ± 4,4	18,9 ± 7,3	20,1 ± 6,9	18±5,9	n.s.
Eo (0-4 %)	3,8 ± 1,6	3,3 ± 2,6	4,2 ± 2,9	3,3 ± 2,0	3,2 ± 1,6	2,7 ± 2,2	9,7±2,9	p<0,05
Mm 0 %	0, 7 ± 1,1	0,5 ± 0,9	1 ± 2,4	1,2 ± 1	2 ± 1,5	1,3 ± 1	-	n.s.
St (0-4 %)	7,5 ± 2,3	7, 7 ± 2,6	9 ± 4,5	6,2 ± 2,6	7,3 ± 2,3	10,5 ± 6,1	4,5±3	p<0,05
Sg (60-78 %)	48,3 ± 10,4	55,2 ± 15,5	51,5 ± 12,1	50,5 ± 11	55, 7 ± 11,5	52 ± 8,5	45,8±10,5	n.s.
L (15-30 %)	40 ± 11	33, 7 ± 13,6	35,3 ± 10,3	38, 7 ± 9,3	30,8 ± 8,8	34 ± 7,1	38,3±9,5	p<0,05
Mo (0-5 %)	0, 7 ± 0,8	0,8 ± 0,4	1,2 ± 0,6	0,8 ± 0,4	1 ± 1	1,3 ± 0,8	1,6±1,2	p<0,01

CONCLUSIONS

- In summary the results from this study

  - There are patterns of significant changes in kinetics of some hemtological parameters (RBC, HGB, HCT, MCV, Mo) in the cats during late pregnancy, delivery and in early postpartum period

  - The leukogram reveals a left shift of neutrophils during late pregnancy, delivery and in early postpartum period

  - There is difference in some hematological parameters between examenated (pregnant and postpartale) and control queens

CHANGES IN SOME HEMATOLOGY PARAMETERS IN A GROUP OF CATS DURING THE LAST THIRD OF PREGNANCY AND THE EARLY POSTPARTUM PERIOD

Plamen Georgiev *, Petko Petkov**, Krasimir Stojanchev**, Anton Antonov*

** Department of obstertrics, gynaecology and andrology, Faculty of Veterinary Medicine, Trakia University, Stara Zagora, Bulgaria*

*** Department of internal disease and clinical toxicology, Faculty of Veterinary Medicine, Trakia University, Stara Zagora, Bulgaria*