

تغييرات الصورة الدموية فى دم الماعز المجهضة بالكلاميد يا

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تم فى هذا البحث دراسة حقلية لعدد ٤٠ من الماعز البلدى المرباه داخل مزرعة كلية الزراعة جامعة أسيوط ، حيث لوحظ أن عدد ١٥ (٣٧ ٪) منها قد أجهضت خلال الشهر الأخير من الحمل وقد أسفرت التحاليل عن وجود الاجسام الأولية الخاصة بالكلاميد يا فى المسحات المشيمية المصبوغة بالأضافة للأعراض الظاهرة المميزة لحالات الأجهاض بالكلاميد يا .

وأوضحت الصورة الدموية وجود أنخفاضا معنويا فى معدل كرات الدم الحمراء والهيموجلوبين والهيماتوكريت مع وجود أنيميا فى الماعز المجهضة نتيجة الأصابة بالكلاميد يا كذلك حدث زيادة فى خلايا النيتروفيل ونقص فى خلايا الليمفوسيث .

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HAEMATOLOGICAL CHANGES IN GOATS WITH CHLAMYDIAL ABORTION (With 2 Tables)

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(Received at 21/10/1985)

SUMMARY

Anticoagulated blood samples were collected from 40 goats. Fifteen of them were proved to be aborted at late stages of pregnancy due to infection with chlamydia. Haematological studies were carried out on infected and non infected groups. The obtained results were as follow: There was a highly significant ($P/0.01$) decrease in total erythrocytic count and haemoglobin concentration in aborted group (infected group) in comparison with other groups. Packed cell volume (P.C.V.) in the infected group showed a significant decrease ($P/0.05$). The infected groups showed macrocytic normochromic anaemia.

Regarding total leucocytic count there was highly significant decrease in early parturient group while there was no changes in other groups. Differential leucocytic count revealed that there was a neutrophilia associated with lymphopenia in the blood of the aborted group.

INTRODUCTION

Chlamydial abortion has been identified among pregnant goats by McCauley and Tieken (1968) and Krishna and Mathur (1979). The placental lesions of the aborted ewes and goats were previously described by Stamp, *et al.* (1950) and Storz (1971) as necrosis of the cotyledons with thickening and flaky clay - coloured exudate on the placenta.

Haematological picture during chlamydial abortion among cattle was early studied by York and Baker (1951, 1956); Howarth, *et al.* (1956) and Storz; Kaneko and Wada (1962).

Chlamydial abortion among goats was diagnosed in Upper Egypt by Zaghloul, *et al.* (1985).

The present investigation aimed at the study of the outbreak of chlamydial abortion among goats and its influence upon haematological picture.

MATERIAL and METHODS

A total of 40 Balady goats, kept under farm conditions, were subjected to close investigation. Chlamydial abortion was diagnosed among those goats by Zaghloul, *et al.* (1985) on the

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basis of clinical signs, post mortem placental and foetal lesions, together with microscopical examination of Modified Ziehl-Neelsen-stained placental smears.

Anticoagulated blood samples were collected from the examined goats into celan, dry, sterile vial which contained (E.D.T.A.) as anticoagulant. Haematological picture of the examined blood samples were performed according to the Method of SCHALM (1979).

The non-pregnant group of goats which was kept apart from the infected animals, was used as a control. The obtained data was statistically analysed according to SENDECOR and COCHRAN (1967).

RESULTS

The post mortem examination of the placentae of the aborted goats revealed the presence of necrosis of the cotyledons, with thickening and flaky clay coloured exudate on the placenta. Moreover, the microscopical examination of the stained placental smears by Modified Ziehl-Neelsen Stain, revealed the presence of the characteristic intracellular red elementary bodies of chlamydia.

The haematological picture of the examined goats is illustrated in table (1 & 2).

DISCUSSION

The detected post mortem lesions and the microscopical findings in the present work coincide with those previously recorded by STAMP, et al. (1950) and STORZ (1971).

Successful application of haematology to diagnosis is dependent on the knowledge of the usual response of the haematopoietic tissues to well-defined physiologic and pathologic states (STRAUB, et al. 1959).

Aborted group behaved a highly significant ($P/0.01$) low total erythrocytic count, haemoglobin content, while packed cell volume, mean corpuscular volume and corpuscular haemoglobin was significantly ($P/0.05$) low. Figures for this group were 5.3 ± 1.6 T/L, 83.00 ± 0.089 gm/L, $25.3 \pm 3.1\%$, $51.2 \pm 13.3U^3$ and $16.9 \pm 4.9UUg$ respectively. Consequently, macrocytic normochromic anaemia was evident in chlamydia-infected group. The reduction in the total erythrocytic count, haemoglobin content and packed cell volume can be attributed to loss of blood from haemorrhage during abortion (STRAUB, et al. 1959).

The erythrocytic number, haemoglobin concentration and packed cell volume (P.C.V.) (Table 1) showed non significant variations in recently-parturient and early parturient groups. The obtained data coincide with those obtained by HOLMAN and DEW (1963 & 1964).

The total leucocytic count in examined groups showed non significant variations. Similar results were previously obtained by HOLMAN and DEW (1963 & 1964).

A highly significant decrease ($P/0.01$) in total leucocytic count was detected in the blood of the early-parturient group. This can be tolerated on the basis that most of the leucocytes used to migrate into the uterus following parturition, which will result in marked decreased of those leucocytes in the peripheral blood (ROBERTS, 1971).

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The lymphopenia (32.6+3.4%) and neutrophilia (58.2+4.4%) in the blood of aborted goats can be attributed to the effect of chlamydial infection on the defensive mechanism of the animals as chlamydia organisms lives and multiplies intracellularly in the cells of the reticulo-endothelial system (STAMP, et al. 1950; ROBBINS, 1962 and COLES, 1980).

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Table (1)
Mean values of haematological picture of examined goats

Parameters Group of goats	No.	T.R.B.Cs X T/L	T.W.B.Cs X G/L	P.C.V. %	Hb Gm/L	M.C.V. μ^3	MCH μg	M.C.H.C %
Non pregnant (Control group)	9	7.8±2.7	13.7±2.04	29.4±5.8	101.4±1.7	40.4±12.7	13.7±2.9	35.9±6.8
Aborted group	15	5.3±1.6**	13.3±2.2	25.3±3.1*	83.0±0.89**	51.2±13.3*	16.9±4.9*	33.0±3.3
Recently parturient	7	7.6±3.4	13.5±1.6	26.4±2.4	99.0±0.9	45.2±21.9	15.8±8.2	34.9±3.6
Early parturient	3	7.9±1.3	8.7±1.9**	23.0±6.9	77.0±0.7*	29.5±8.6	9.9±0.8	35.0±8.3

T/L = Tera / Litre (10^{12} /L)

G/L = Giga / Litre (10^9 /L)

M.C.V. = Mean corpuscular volume

M.C.H. = Mean corpuscular haemoglobin

M.C.H.C. = Mean corpuscular haemoglobin concentration.

*: Significant ($P \leq 0.05$)

**: Highly significant ($P \leq 0.01$)

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Table (2)
Differential leucocytic count in examined goats

Parameters Groups	No.	Band cell	neutrophils	eosinophils	basophils	Lymphocytes	Monocytes
non pregnant (control group)	9	2.8±1.5	55.6±4.3	2.8±0.8	1.0±0.7	57.8±5.6	2.6±0.9
Aborted	15	2.2±1.8	58.2±4.4**	2.6±0.9	0.6±0.5	32.6±3.4**	3.8±0.9
Recently parturient	7	2.8±0.8	34.6±5.4	1.8±0.8	0.6±0.1	57.4±4.6	3.2±1.3
Early parturient	3	1.6±1.1	35.2±4.1	2.4±0.5	0.6±0.5	58.6±3.6	2.6±1.1

* : Significant (P/ 0.05)

** : Highly significant (P/ 0.01)

