

قسم: طب الحيوان.
كلية: الطب البيطري - جامعة أسيوط.
رئيس القسم: أ.د. / ابراهيم سيد احمد.

الصورة الأكلينيكية والدموية وبعض التغيرات البيوكيميائية
في مصل دم الأغنام السليمه والمصابه بالحويصلات الشريطية

احمد عامر ، ثروت عبدالعال ، مراد اسماعيل

اشتمل هذا البحث على عدد ١٢ من النعاج يتراوح اعمارهم من ٢-٢ سنوات
مقسمه الى مجموعتين متساويتين : الأولى مصابه بالحويصلات الشريطية (تينامليتسبس).
والمجموعه الثانيه ثبت بالفحص المعملّي والاكلينيكي أنها سليمة أكلينيكيًا واستخدمت
كضوابط للبحث.

استهدفت الدراسة تقييم تأثير الاصابة بالحويصلات الشريطية على الصورة
الاكلينيكية والدموية وكذلك بعض المركبات البيوكيميائية في دم الاغنام ومقارنتها
بتلك النتائج السليمه.

وأوضحت الاعراض الاكلينيكية ظهور بعض الاعراض العصبية وعدم القدره
على المشى وتخبط في الخطى.

بالنسبة للصورة الدمويه فقد لوحظ ارتفاع معنوي في عدد كرات الدم البيضاء
وكذلك العدد التصنيفي للكرات الحمضيه والمنوسيت.

أما بالنسبة للتحاليل البيوكيميائية فقد رصدت فروق غير معنويه في نشاط
الترانسي امينيز والبروتين الكلي والجلوكوز ومعدلات الكالسيوم والفسفور الغير
عضوي والماغنسيوم.

وأوضحت الدراره أهمية الصفه التشريحيه للحيوانات النافقه في تشخيص المرض

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**CLINICAL, HAEMATOLOGICAL AND SOME BIOCHEMICAL
VARIATIONS IN SHEEP INFESTED WITH COENUROSIS**
(With Two Tables)

By
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(Received at 10/5/1986)

SUMMARY

This investigation was conducted on 12 ewes-2-3 years age - divided into two groups, each contains 6 ewes. The first group was proved-by both clinical and laboratory methods of diagnosis-to be apparently clinically healthy. The second group was infested with coenurosis which was proved by post-mortem examination of dead animals.

Heamogram picture, revealed a highly significant ($P/ \underline{\quad} 0.01$) leucocytosis associated with eosinophilia and monocytosis in diseased group if compared with healthy one.

Biochemical analysis revealed non-significant variations in the blood serum transaminases, total proteins, Glucose, calcium, inorganic phosphorus and magnesium level.

INTRODUCTION

Coenurosis is the disease caused by invasion of the brain and spinal cord by the intermediate stage of Taenia multiceps (BLOOD and HENDERSON, 1979).

GREIG and HOLMES, (1977) recorded that coenurosis in sheep is more prevalent than that in cattle. The disease occurred in all breeds, sexes and ages of sheep (JENSEN, 1974).

Clinical signs and post-mortem lesions of coenurosis were studied by many authors JENSEN, (1974); GREIG and HOLMES, (1977) and Dyson & Linklater, (1979).

COLES, (1980) reported that serum calcium, total proteins, inorganic phosphorus and alkaline phosphatase determination are indicated with certain paralytic syndroms and also if the animals exhibiting signs of convulsions.

The aim of the present work was to throw light on possible-haematological and some biochemical-changes in sheep infested with coenurosis and the possibility of using such parameters as an aid of diagnosis and differential diagnosis of coenurosis in sheep.

MATERIAL and METHODS

A total number of 12 ewes were used in this investigation. Age ranged from 2-3 years. A history of coenurosis was recorded among sheep flocks belonging to Development Sector of Assiut Province.

Other six sheep-that was proved to be clinically healthy by both clinical and laboratory methods of examinations were served as a control.

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Two blood samples were collected from each animal through jugular vein puncture. The anticoagulated blood sample was used for haemogram picture after the method described by SCHALM, (1979). Blood sera were analysed biochemically using test* kits as follows :-

- Serum transaminases-u/ml- after the method of Reitmann and FRANKEL, (1959).
- Serum total proteins-gm%- after the method of WEICHSELBAUM, (1946).
- Serum glucose level-mg%- after the method of TRINDER, (1969).
- Serum calcium level-mg%- after the method of Gindler and KING, (1972).
- Serum inorganic phosphorus -mg%- after the method of MORINAL and PROX, (1973).
- Serum magnesium level -mg%- after the method of GINDER and HETH (1971).

Faecal samples were collected for parasitological examinations.

Statistical analysis of the obtained data was performed according to the method of SNEDECOR and COCHRAN (1967).

RESULTS

Clinical signs of diseased ewes were hyperesthesia, some of them suffered from impaired vision, incoordinated gait and with abnormal degree of excitability which terminated into depression, coma and death.

The post-mortem examination of dead ewes revealed a unilateral bladder worm in frontal lobe of the brain or in others parts of the brain, parenchymatous organs and peritoneum. Other abnormal signs were not observed. Haematological picture and some biochemical constituents in both healthy and diseased sheep were illustrated in Tables (1 & 2).

Results of faecal samples for nematodes, Trematods and tape worm eggs or segments were negative.

DISCUSSION

The clinical signs and the post-mortem lesions which were recorded in diseased sheep coincided with those previously obtained by FRANKHAUER et al. (1959), JENSEN,(1974) in sheep and GREIG and HOLMS, (1977) in cattle infested with Taenia multiceps.

From table (1), it was clear that non-significant variations in total erythrocytic count, packed cell volume and haemoglobin concentration were existed between both healthy and infested ewes. The obtained data coincided with those previously obtained by SCHALM, (1979) and COLES, (1980) in sheep.

On the other hand, there was a leucocytosis associated with both esinophilia and monocytosis in diseased sheep if compared with the healthy ones. This variation can be attributed on the basis of parasitic infestation (COLES, 1980).

Regarding the biochemical analysis, it clearly that there was a non-significant variations in the level of blood serum transaminases, total proteins, serum calcium, inorganic phosphorus and magnesium levels in both healthy and diseased sheep (Table, 2). The recorded levels of the estimated parameters were agreed with those recorded by COLES, (1980) in clinically healthy sheep.

COENUROSIS IN SHEEP

The study declared the minor role of coenurosis in sheep on the both haemogram but specially on some biochemical picture. The clinico-pathological examinations were not so sufficient to be used to ascertain the diagnosis but the post-mortem lesions of dead animals are the most confirmatory line of diagnosis. Clinico-pathological variations may be helpful in differentiation of others diseases confused with coenurosis.

Table (1)
Haematological picture in healthy and diseased ewes

Parameters	Units	Groups	
		Healthy	Diseased
T.R.B.Cs.	T/L	8.78+1.5	7.65+1.2
T.W.B.Cs.	G/L	10.2+0.8	13.4+0.8**
P.C.V.	%	34.0+2.9	35.2+5.5
Hb	gm%	11.3+0.5	12.4+0.4
M.C.V.	u3	38.8+3.2	42.6+2.8
M.C.H.C.	%	35.5+1.3	37.7+2.3
D.L.C.			
	%		
Band	%	3.2+0.3	3.5+0.7
Neutrophils	%	32.5+0.9	27.8+0.5
Esinophils	%	6.9+0.5	12.5+0.6**
Lymphocytes	%	49.5+1.2	45.0+0.6
Monocytes	%	7.9+0.6	11.2+0.9**

T/L: Tera/Liter ($\times 10^{12}$) G/L: Giga/Liter ($\times 10^9$)

** : Highly significant (P/ 0.01) N.S.: Non-significant.

Table (2)
Some biochemical constituents in healthy and diseased ewes

Parameters	Units	Groups	
		Healthy	Diseased
S.G.P.T.	u/ml	8.8+0.9	10.2+3.1
S.G.O.T.	u/ml	18.5+0.6	21.0+3.6
Total proteins	gm%	7.1+0.9	6.7+1.3
Glucose	mg%	48.5+0.9	42.6+4.2
Calcium	mg%	11.1+1.6	10.4+1.2
Inorg. Phosphrous	mg%	6.2+1.4	5.6+0.5
Magnesium	mg%	2.9+0.7	3.0+0.9

N.S.: Non-significant

Mean

+ : Standard deviation.

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