

THE POLLUTION LEVEL OF TENIOSIS IN SHEPHERDS AND IMPACT OF SOME OF THEM IN APPARITION AND DEVELOPMENT OF CENURIOSIS FOCUS POINTS IN YOUNG SHEEP

Octavian NEGREA¹, Vioara MIREȘAN¹, Grigore ONACIU¹, Camelia RĂDUCU¹, Flore CHIRILĂ², Zamfir MARCHIȘ¹, Octavia NEGREA²

¹University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Faculty of Animal Science and Biotechnologies, 400372-Cluj-Napoca, Manastur, 3-5, Cluj-Napoca, Romania

²University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Faculty of Veterinary Medicine, 400372-Cluj-Napoca, Manastur, 3-5, Cluj-Napoca, Romania

Corresponding author email: vmiresan@yahoo.com

Abstract

The investigations performed in May 2012 on a group made up of 15 shepherd individuals, (9 adults and 6 young from 2 sheepfolds), concerning the incidence and intensity of parasitism in some teniosis, emphasized their high prevalence, of 80.8% in adult dogs from the sheepfold 1 and 75.0% from the sheepfold 2, and 66.6% in young dogs from the sheepfold 2. The share of the oncosphere copro-eliminations in shepherd dogs teniosis from both sheepfolds emphasized average and massive levels in adult dogs (50.0% in sheepfold 1 and 33.3% and 66.6%, respectively, in sheepfold 2), and in young dogs low and massive levels (50.0% sheepfold 2). The incidence of the cerebro-spinal cenuriosis in young sheep during previous year exhibited values of 24% in sheepfolds 1 and 10.2%, in sheepfold 2, and anatomo-clinical picture is dominated by serious locomotory disorders (42.8%) and nervous disorders (28.5%).

Key words: sheepfold, taenia, parasitism, oncosphere, nervous disorders.

INTRODUCTION

It is well known that the incidence of the teniosis is increased in dog populations located around animal husbandry farms, slaughtering houses, in accompanying and sheep flocks guardian shepherds dogs, but also in haunting dogs (Șuteu and Cozma 2004; Negrea, 2007). The infested carnivores represent real dangerous pools for both humans and some domestic animals (sheep, cattle, swine) with risk for contacting diseases as echinococosis, cerebro-spinal cenuriosis, etc. In animal husbandry sector, these parasitary diseases (meto-cestadosis) produce major economical prejudices (decrease of the animal productions, weakness, necessity slaughters) (Șuteu and Cozma 2004; Negrea, 2007; Cosma et al., 1998). In the present paper there are evaluated the incidence and intensity of the parasitism of some teniosis in shepherds from two sheepfolds from the county of Cluj, major risk for some of them to harm the sheep young individuals.

MATERIALS AND METHODS

The investigations were carried out in spring of 2012, on 15 Ciobănesc carpatin and Ciobănesc mioritic dogs, belonging to 2 private sheepfolds from a village limitroph to Cluj – Napoca municipality. The dog population was divided as follows:

- sheepfold 1: 8 dogs of which 5 adults and 3 young

- sheepfold 2: 7 dogs of which 4 adults and 3 young.

From these, there were prelevated, individually, coprological samples in polyethylene bags, and for evaluation the incidence and intensity of teniosis parasitism, oviscopic coprological methods of enriching by flotation (Willis method) were used. The level of parasitism intensity in diagnosed cestadosis was established according to the following protocol:

- reduced infestations: 1-5 oncosphere/microscopic field

- average infestations: 5-10 oncosphere/microscopic field

- massive infestations: more than 10 oncosphere /microscopic field

In the mean time, clinical examinations were performed on 116 young sheep stocks, from previous year (67 animals - sheepfold 1 and 49 animals - sheepfold 2), in order to identify cases with behavior alterations (nervous disorders, movement disorders, prolonged decubitus), phenomena characteristic for cerebrospinal cenuriosis developed by one year old young sheep (TOAP). From total cenuriosis suspect cases, 4 animals were hospitalized and then submitted to surgical intervention at the Clinic of Surgical Diseases from the Faculty of Veterinary Medicine Cluj-Napoca. The rest of 17 animals were necessity slaughtered and used for familial consumption.

RESULTS AND DISCUSSIONS

The incidence of teniosis in examined dog group, according to age category and provenience source is presented in table no.1 as follows:

Table 1. The variation of extension of teniosis in shepherds by age categories and provenience

Sheepfold	Adult dogs			Young dogs		
	Examined samples	Of which		Examined samples	Of which	
		positive	%		positive	%
No. 1	5	4	80.0	3	-	-
No. 2	4	3	75.0	3	2	66.6
Total	9	7	77.7	6	2	33.3

Analyzing the values obtained from above presented data, concerning the incidence of the main teniosis in shepherds from 2 studied sheepfolds, we found a high level of incidence, as follows: sheepfold no.1, the prevalence of the parasitism in adult dogs is of 80.0% and 75% in sheepfold no. 2. In the mean time, we note

that in young dogs the teniosis parasitism is present only in sheepfold no. 2, in share of 66.6%. It is known that teniosis exhibit an increased incidence in dogs from animal husbandry and slaughter houses surroundings, in shepherds, etc. (Şuteu and Cozma, 2004; Cosma et al., 1998; Daraban, 2006). The carnivores represent dangerous sources for both animal species (cattle, sheep, goats, etc.) with risk of contacting chronic diseases (hydatidosis, cenuriosis, cisticercosis) and human collectivities due to the risk of contamination with hydatidic cyst or cerebrospinal cenuriosis. Because the cestodes eggs are infested in the moment of faeces expulsion the risk of contamination is amplified (Şuteu and Cozma 2004; Losson, 1993). The variation of teniosis extent in shepherds by age categories and provenience is presented in the following graph.

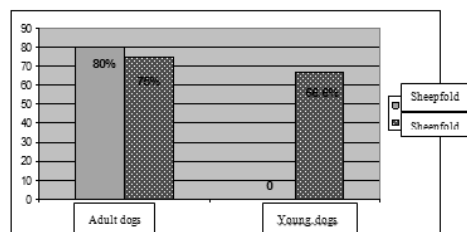


Figure 1. The variation of teniosis incidence in shepherds

The results of the coproparasitological examination concerning the level of the intensity of the parasitism with taenia oncospheres, in shepherds from both sheepfolds are presented in table 2.

Table 2. The level of teniosis coproparasitary pollution in shepherds

Sheepfold	Adult dogs					Young dogs						
	Positive samples	Of which			Positive samples	Of which						
		+	++	+++		+	++	+++				
		+	%	+	%	+	%	+	%	+	%	
1	4	-	-	2	50.0	2	50.0	-	-	-	-	
2	3	-	-	1	33.3	2	66.1	1	50.0	-	1	50.0
Total	7	-	-	3	42.8	4	57.3	2	50.0	-	1	50.0

The quantum of the oncosphere copro-elimination in carnivore teniosis diagnosed in shepherds from both private sheepfolds is correlated with the level of intensity parasitism

produced by different parasite taenia. The obtained data emphasize average and massive levels for parasitism intensity in adult dogs, 50.0% in sheepfold 1 33.3% and 66.6% in

sheepfold 2, respectively, while reduced and massive levels of this parasitism were recorded in young dogs (50.0% in sheepfold 2). We note that the oviscopical coproscopic examination is relevant for positive cases, but it has group value, while only the morpho-pathological examination confer certitude (Negrea, 2007; Cosma et al., 1998). In following graph (fig.2) is presented the level of intensity of the

parasitism with oncospheres of taenia in shepherds from both sheepfolds, by age categories and provenience. The data of investigations performed on an effective of 116 young sheep one year old, concerning the incidence and anatomo – clinical picture in cerebrospinal cenuriosis are presented in table no. 3.

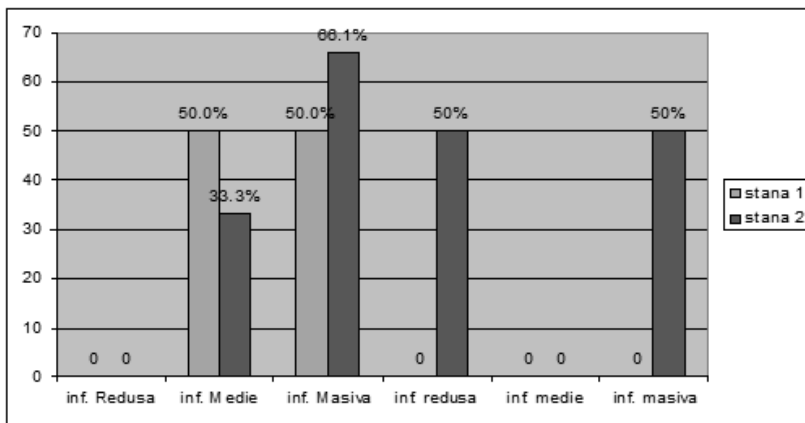


Figure 2. The variation of the oncosphere coproparasitary charge in shepherds

Table 3. The incidence and anatomo – clinical picture in cerebrospinal cenuriosis in TOAP

Sheepfold	TOAP Effective	Of which					
		Positive	%	Anatomo – clinical picture			
				Nervous disorders	Movement disorders	Decubitis	Cranial retarding
1	67	16	24.0	4	25.0	5	31.3
2	49	5	10.2	2	40.0	4	80.0
Total	116	21	18.1	6	28.5	9	42.8

From data presented in table no. 3 result an 18.1% incidence of cenuriosis in TOAP, for both sheepfolds, with variations correlated with their provenience. Thus, in sheepfold 1, the incidence of the meta-cestodiosis is of 24.0% compared to sheepfold 2 where incidence is of 10.2%. Generally speaking, cenuriosis is a grazing disease, being advantaged by the contamination dog – sheep, sometimes by humans, which ignore or measures of destroying the epidemiological chain (Losson, 1993; Negrea, 2007). The picture of the morpho-clinical alterations emphasized in table

3 is the result of the cerebral migration of the hexacant embryos and consequent development of the cenuric vesicles, this fact being more or less alarming function of the number of the migrating hexacant embryos. This evolves from slight disorders of coordination of movements, sometimes hard to observe, to serious nervous disorders, movement disorders, or contrary, prolonged decubitus (Șuteu and Cozma, 2004; Daraban, 2006; Losson, 1993). The variation of the incidence and morpho-clinical picture of cenuriosis in TOAP are presented in the following graph.

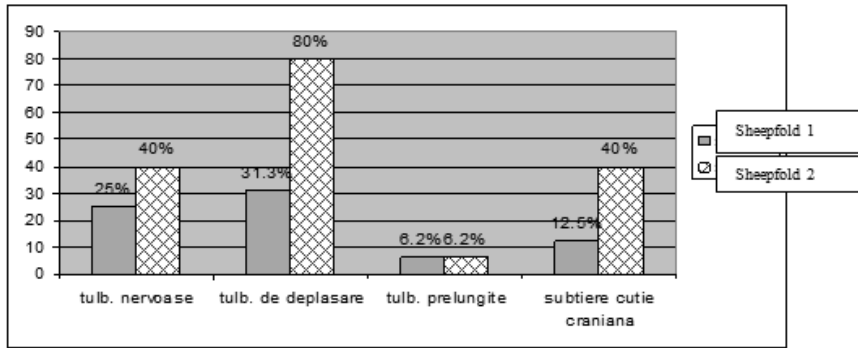


Figure 3. The variation of the incidence and morpho-clinical picture of cenuriasis in TOAP

CONCLUSIONS

The investigations concerning the extension and intensity of parasitism with taenides performed on a group made up of 15 shepherds owned by 2 private sheepfolds from the county of Cluj, as well as the incidence and morpho-clinical picture in cenuriasis in 116 young sheep from the same sheepfolds, reveal the following aspects:

1. The prevalence of the teniosis in shepherds from both sheepfolds, by age categories recorded different values, of 80.0%, 75.0%, respectively in adult dogs, and 66.6% in young sheep from the sheepfold no. 2.
2. The quantum of the oncosphere copro-eliminations in teniosis had average and massive levels in adult dogs (50.0% sheepfold 1, and 33.3%, 66.6% respectively in sheepfold 2) and low and massive levels in young sheep (50.0% in sheepfold no. 2).
3. The incidence of the cenuriasis in young sheep recorded values from 24.0% in sheepfold no. 1 to 10.2% in sheepfold no. 2, and morpho-clinical picture is dominated by locomotory disorders (12.8%) and nervous disorders (28.5%).

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