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Research Article

INCIDENCE AND HISTOPATHOLOGICAL STUDY OF MONIEZIOSIS IN GOATS OF JAMMU (J&K), INDIA

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ABSTRACT
Necroscopic study of 284 goats was examined for *Moniezia expansa* Rudolphi, 1891 infection for the period of one year. The infection rate observed during the study was 2.11%. Histopathological study of the infected tissues with *Moniezia expansa* revealed shortened and flattened villi and local haemorrhages. The luminal site of the duodenum was found to b depressed like cavity because of *Moniezia expansa.*

Key Words*: Histopathology, Monieziasis, Goats, Jammu, Duodenum*

INTRODUCTION
Goat rearing is a tribal profession of nomads (Bakerwals, Gaddies) and many other farming communities in Jammu and Kashmir. Goats contribute to the subsistence of small holders and landless rural poor. Goats due to improper management and unhygienic conditions are suffering from various parasitic diseases. Parasitic infection ranges from acute disease frequently with high rates of mortality and premature culling to subclinical infections, where goat may appear relatively healthy but perform below their potential. In broader sense, the factors dictating the level and extent of parasitism are climate, management conditions of pasture and animals, and the population dynamics of the parasites within the host and in the external environment. Gastrointestinal parasitism is one of the major health problems severely limiting the productivity of dairy animals, in the Himalayan and other hilly regions of india (Jithendran and Bhat, 1999). The diverse agro climatic, animal husbandry practices and pasture management largely determine the incidence and severity of various parasitic infections in grazing animals (Arambulo and Moran, 1981; Joshi, 1998 and Jithendran and Bhat, 1999). *Moniezia expansa* Rudolphi 1891, a tapeworm of herbivores mostly occurs in small ruminants is one of the cestode parasites which are causing major health problems in goats. In Jammu and Kashmir, the incidence of *Moniezia expansa* has been reported by many workers viz., Bali (1976)**;** Makhdoomi *et al.,* 1995, Khajuria *et al*., (2003), Yadav *et al*., (2006).The present study reports incidence and some histopathological aspects of *Moniezia expansa* in present subtropical area of Jammu.

MATERIALS AND METHODS
A total of 284 goats from different places of subtropical Jammu were examined and screened between November 2007 to October 2008 for *Moniezia expansa*. The gut of freshly slaughtered animal at local slaughter house were collected and scanned. The main sites observed for parasitic infection were small intestine. The study revealed infection of goats by *Moneizia expansa* Rudolphi 1891 whose identification was confirmed from morphological features (Solusby 1982 and Yamaguti, 1959). The various parts of intestines naturally infected with *Moneizia expansa* were sectioned and stained with haematoxylin and eosin method for histopathological studies.

RESULTS AND DISCUSSION
Only 6/284 (2.11%) small intestines were infected with *Moniezia expansa* as shown in table 1. The highest infection was recorded in summer (3.38%) and winter (2.40%) followed by spring (1.56%) and autumn (1.28%) as shown in table 2. Intestines of study animals infected with *Moniezia expansa* showed

the proliferaration of lining epithelial cells with the shortening and flattening of intestinal villi and local haemorrhages. There was thickening of mucosa and submucosal layers due to infiltration of mononuclear cells and a few plasma cells.

Table 1: Incidence of Monieziasis in goats of Jammu

S. No	Animal	No. of animals examined	No. of animals positive	Prevalence
1	Goat	284	6	2.11

Table 2: Seasonal prevalence of Monieziasis in goats of Jammu

Summer	Autumn	Winter	Spring
3.38%	1.28%	2.40%	1.56%

Figure 1: Mature proglottids of *Moniezia expansa* Rudolphi, 1891

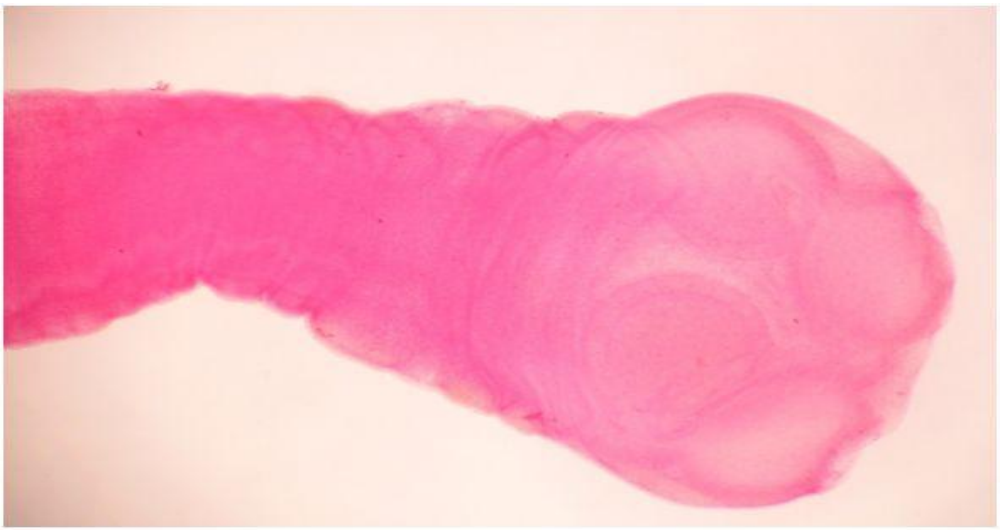

Figure 2: Scolex of *Moniezia expansa* Rudolphi, 1891

In the present study only 2.11% goats were infected with *Moniezia expansa*. The results agreed with the previous findings (Makhdoomi *et al*., 1995; Pandit *et al*., 2003; Khajuria *et al*., 2003 and Yadav *et al*., 2006) from the same study area of Jammu And Kashmir State. Our findings are also in agreement with studies from other parts of the world (Cantorary *et al*., 1993; Kaur *et al*., 1995; Sub-andriyo *et al*., 1996; Azad *et al*., 1997; Akram and Najma, 2001; Borthankur and Das, 2006;Wright and Andersen, 1972; Meshram *et al*., 2007; Shashi Kiran *et al*., 2005; Sreedevi *et al*., 2005; Singh *et al*., 2006; Mazid *et al*., 2006; Singh *et al*., 2005; Mishra, 2007; Panitz *et al*., 2006; Khaled Sultan *et al*., 2010 and Allindehou and Salifou, 2012).

During the present histopathological study it was found infected tissues with *Moniezia expansa* revealed shortened and flattened villi and local haemorrhages. The luminal site of the duodenum was found to be depressed like cavity because of *Moniezia expansa*. Our histopathological study is in agreement with (Nath and Pande, 1963; Verma, 1966; Amjadi, 1971; Avastthi *et al*., 1981 and Tegtmeyer *et al.,* 2007), who have also reported changes in various tissues of host animals with other cestodes. Haemorrhages and diffuse cellular infiltration of the lining epithelium were described by Avastthi *et al*., (1981). Similar types of changes were also recorded in the present investigation. The partial obliteration of villus structure and superficial necrosis recorded by Bystrova and Davydov (1966) in the intestine of sheep infected with *Moniezia expansa* were also observed in the present study.

Conclusion

Keeping in view the present findings, it can be concluded that there is urgent need for chemotherapeutic and prophylactic strategies for the monieziosis control in this region of Jammu And Kashmir State.

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