

HISTOPATHOLOGICAL STUDY OF *CAPRA HIRCUS* PARASITIZED BY *MONIEZIA*(B.) FROM PARBHANI CITY M.S.(INDIA)

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ABSTRACT

Present study was conducted to investigate histopathology of intestinal tissue of goat *Capra hircus* (L) parasitized by cestodes, *Moniezia parbhaniensis* N.Sp. The intestinal tissue was parasitized by *Moniezia parbhaniensis* N. Sp. Collected from slaughter house of parbhani city. The direct effect of cestode parasites mainly depend on their holdfast organs. The parasite has deeply penetrative type of scolex, which causes the heavy mechanical injury to the intestinal tissue. Parasite derives nutritive material, required for growth, from host tissue by causing damage to it. Thus the study reveals that association of *Moniezia parbhaniensis* N.Sp. with *Capra hircus* is more dangerous for its health .

Key Words- Cestode, *Capra hircus*, *Moniezia parbhaniensis* N. Sp.,Histopathology.

INTRODUCTION

India's livestock sector is one of the largest in the world and accounting for 26.40% goats and plays an important role in economy (Anonymous, 2012)[1].

Goat rearing is a tribal profession of nomads and many other farming communities in Parbhani city. Goats contribute to the substance of small holders and landless rural poor. Goats due to improper management and unhygienic conditions are suffering from various parasitic infection ranges from acute diseases frequently with high rates of mortality and premature culling to subclinical infections.

Gastrointestinal parasitism is one of the major health problems severely limiting the productivity of dairy animals in India (Jithendran and Bhat, 1999)[6]

The study of the relationship between host and a parasite is called as "Histopathology". The microscopic examination of tissue is an extremely valuable component for the study of degree of infection by cestodes.

Host parasites relationship results in gain of one organism and loss of another. It leads to various diseases and disorders. Keeping in view the increasing importance of goat as source of economy,an attempt has been made to study histopathological changes caused by *Moniezia parbhaniensis* N.Sp. to the intestine of *capra hircus* in Parbhani city.

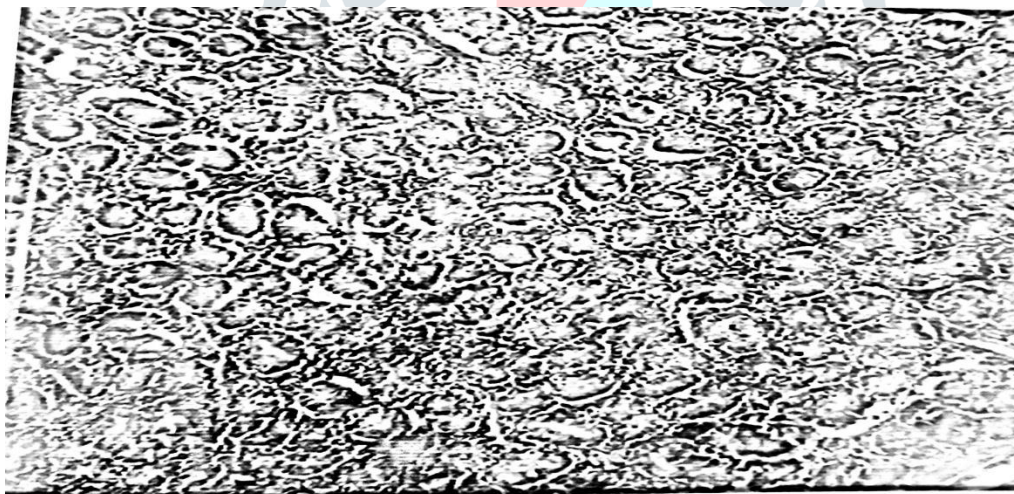
MATERIAL AND METHODS

A total of 65 *capra hircus* from different places of parbhani city were examined between April 2012 to Feb. 2013 for cestode infection .The gut of freshly slaughtered animal at local slaughter house were collected and sample of infected intestine of *Capra hircus* were collected from slaughter houses from Parbhani city. Examination of the tissue was done to find the infection. The main sites observed for parasitic infection were intestine. The study revealed infection of *Capra hircus* by *Moniezia* (B.) *parbhaniensis* N. sp, whose identification was confirmed from morphological features (Yamaguti, 1959)[13] . Some intestines were found to be infected and some are normal. Both infected and normal hosts intestine were dissected and fixed in Bouin's fluid to study histopathological changes. The fixed materials from Bouins fluid were removed, washed, dehydrated through alcoholic grades, cleared in xylene and embedded in paraffin wax (58-62°C). The blocks were cut at 8 μ and slides were stained in Eosin Haematoxylin double staining method for histopathological studies.

RESULT AND DISCUSSION

Parasitism of cestodes with their respective hosts is shown in the histopathological studies. Healthy intestine shown, healthy villi and all layers are clearly observed, where as infected intestine has been observed that the worm attached to the mucosal layer of intestine and slowly invades to the deeper layers of the host tissue

In the present histopathological study, intestine of *Capra hircus* infected with *Moniezia Parbhaniensis* N. Sp. showed the proliferation of lining epithelial cells with the shortening, flattening and rupture of villi of crypts of liberkuhn and local haemorrhages. There was thickening of mucosa and submucosal layers due to infiltration of mononuclear cells and a few plasma cells. Our histopathological study is in agreement with (Nath and Pande, 1963; Verma, 1966; Amjadi, 1971; Avastthi et al., 1981 and Tegtmeier et al., 2007)[7,12,2,3,10] , who have also reported changes in various tissues of host animals with other cestodes. The present result was also confound by result of Bystrova and Davydov (1966) [4] who recorded partial obliteration of villus structure and superficial necrosis in the intestine of sheep infected with *Moniezia expansa*. Similar finding has been reported by Nanware and Bhure (2011,13)[8,9] mucosal layer disintegrated to form granular masses in the intestinal tissue of *Capra hircus* infected with *Stilesia sp.* This result is also agree with the result found by Jadhav V.M and Kale M.K.(2018)[5] The damage was severe, resulting in a condition like sessile adenoma, and in some places the mucosal region was thickened, producing a condition like pedunculate adenoma



T. S. of Non-infected intestine of *Capra hircus* L.



T. S. of infected intestine of *Capra hircus* by *Moniezia parbhaniensis* sp. nov.

CONCLUSION

Parasite affect the productivity of the *Capra hircus* in the systems through mortalities by decreasing growth rate reducing the quality of flesh and making the hosts more susceptible to more pathogens. From the above histopathological discussion it can be concluded that cestode parasites like *Moniezia parbhaniensis* N. Sp. finds nutritive material from the intestine of host *Capra hircus* which is essential for their nourishment and growth.

Keeping in view the present findings, it can be concluded that there is urgent need for prophylactic strategies for the helminth control in Parbhani city.

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