Histological Damage Tapewormbytylocephalumgovindi Sp. Nov.(Cestoda-Lecanicephalidae) In TheintestineOftrygonsephen

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ABSTRACT

The marine water fishTrygonsephen collected from Ratnagiri district during the period of June 2017 to May 2018. After dissection their intestinal passage was examined for tapeworm parasite. The tapeworm, tetragonocephalum sp. Shipley (1905). The histopathological studies were carried out and observation clearly shows that the parasite, TylocephalumgovindiSp.Nov. was approaching to the intestinal villi, embedded in the fibroblast cell and is attached to the intestinal villi. Thehistopathological studies of tapeworm TylocephalumgovindiSp.Nov.Have been studied to find the pathological changes and extendof damage of the intestinal layers of Trygonsephen.

Keywords:Histological Damage, TylocephalumgovindiSp .Nov, Trygonsephen, intestinal villi.

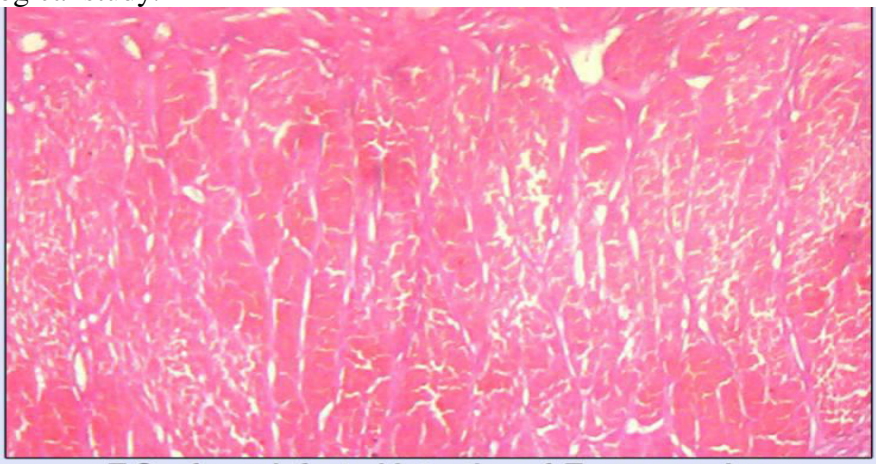
1. INTRODUCTION

The study of different types of the diseases to the tissues of host is known as“Histopathology”. During the life cycle of cestode, it is accomplished twice in differenthost. In fishes the mechanism of parasites establishment varied from species to speciesand it also depends on the stage of parasite, host tissue and environmental conditions. Thephysiological conditions in a particular host gut (fishes) with regard to pH or otherphysiological characters may provide favourable or unfavourable site for metabolism ofparticular species. The various forms of cestodescolex or head bears hold fast organs,which are beautifully adapted for attachment to the mucosa of specific hosts, but in somespeciesScolex are poorly developed; hence they cannot specifically adapted to anyparticular intestine, and have a wide host spectrum.The extensive study on the host parasite relationship has been carried out byNadkal, Mohandas, John and Simon (1974). The pathogenicity of cestodes of variousorders, Rees, G. in 1967.in fishes Mevicar (1972) described host parasite relationship of*Phyllobothrium*, *Acanthobothrium*, *Echinobothrium*, Sircar and Sinha(1980) have alsostudied the histopathology of *Lytocestusindicus*occurring in fresh water fishes.Murlidhar and Shinde (1987) observed histopathology of *Acanthobothriumuncinathum*of fish *Rhynchobatusdjeddensis*Hunter (1972), Amlacher (1961), Hayunga E. G. (1977)and Mackiewilz (1972) has studied the histopathology of intestine of fish caused due tocestodes. Boruclnska and Caira (1993) observed a comparison

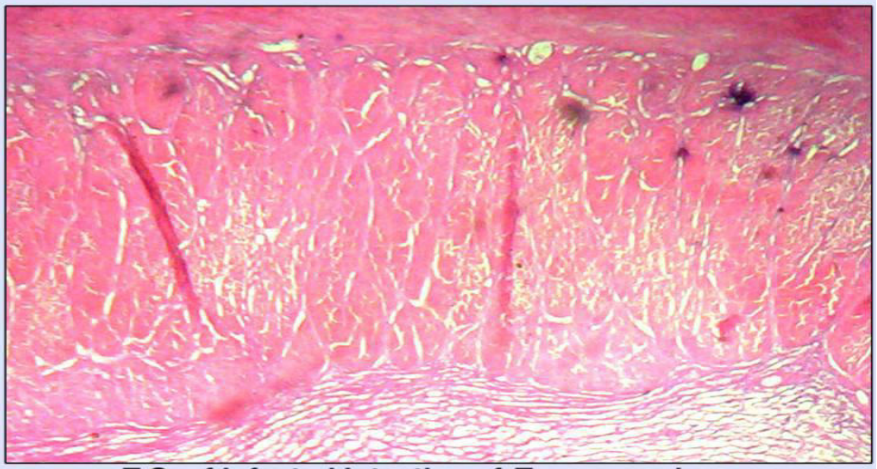
of mode of attachment andhistopathogenicity of tapeworm representing two orders infecting the spiral intestine ofthe nurse shark, *Ginglymostomacirratusa* degree of response varies from host to and also varies in different tissue sites,within the host. It was observed in suitable host of the parasites, followed byaccumulation cells, mostly eosinophil, occurred around the parasite tissue, followed by astratiform necrosis of granulated tissue. Sometimes, neurotic nodules or abscesses alsodevelop and sometimes no marked cellular reaction is seen, even though the scolexenters and dilates the crypts of lieberkuhn and invades the lamina propria to causebleeding.Thus the host parasite relationship results in the gain of one organism and the lossof another. It leads to various diseases and disorders in the infected hosts.Naturally it is important to study this relationship not because of theirparasitological value but for the relative existence of mankind these studies may have considerable intrinsic interest and raise fundamental questions common to other areas ofBiology at a molecular, cellular tissue and whole organism level.

2. MATERIAL AND METHODS

For the histopathological study, different types of marine water fishes weredissected to observe the rate of infection. Some fishes were found to be infected andsome uninfected. Both infected and uninfected hosts intestine were dissected and fixed inBouins fluid to study histopathological changes. The fixative inhibits the post mortemchanges of the tissues. Then tissues were washed, dehydrated through alcoholic grades,cleared in xylene and embedded in paraffin wax (58-62 °C).The blocks were cut at 7µ and slides were stained in MallorysTripple staining method.Best slides or sections were selected and observed under the microscope forhistopathological study.



T.S. of non-infected Intestine of *Trygon sephen*



T.S. of infected Intestine of *Trygon sephen*

3. RESULT AND DISCUSSION

The host parasite relationship between *Trygonsephen*and*Tylocephalumgovindi*Sp.Nov.

A} T.S. of non-infected Intestine of *Trygonsephe.*

B} T.S. of infected Intestine of *Trygonsephen.*

The worm *TylocephalumRatnagiriensisSp.Nov*is having non- penetrative type ofScolex, hence, they have only close intimate contact with intestinal tissue of its host*Trygonsephen*In transverse section of intestine of *Trygonsephen,* it has been observed that thecyst attached to the mucosa layer of intestine and slowly invades the host tissue, causingmless damage but destroys the intestinal epithelium showing that the cyst are moderatelypathogenic. The cysts is not only successful to adhere to host tissue but also quitesuccessful to enter into the intestine forming the ulceration to their intestinal wall,causing damage to the host tissue.Thus, it can be concluded that the rich environment of host intestine, is favourablefor the development and growth of the worm. Hence, the parasites maintaining good hostpathological relationship with its host.

4. CONCLUSION

Parasite affect the productivity of the fish 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 finds nutritive material from the intestine of hosts which is essential for their nourishment and growth.

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