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Biochemical Variation in Cestode Parasites of Domestic Fowls from Ahmednagar District (M.S)

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Abstract: ***This study was carried out the biochemical estimation of cestode parasite and its host tissue i.e. normal and infected intestinal tissue of Gallus gallus domesticus in Ahmednagar dist. The percentage of lipid is low parasites as compared to protein and glycogen. Protein content in Cutugnia sp is 0.05 mg/gm wt of tissue and Glycogen content is 0.092 mg/gm. wt. of tissue. Lipid content in Cutugnia sp is 0.015 mg/gm. wt. of tissue. These parasites are absorbing most of bimolecules from host and damage and affect development of tissue***
Keywords: Biochemical parameter, Gallus gallus domesticus, Cestode

I. INTRODUCTION

Poultry is bred in family run farms and commercial farm worldwide. (Permin A, Hansen J W,1998),Birds are one of the most populous life forms and excellent indicators of health of many ecosystems. Birds also supply both eggs and meats, which are the direct source of protein to humans, therefore seem to be important both commercially as well as from the public health point of view. Heavy helminthes infection in poultry causes direct economic losses through mortalities and a drop in egg-laying capacity. (Yamaguti, S 1940) Man has also been shown to be infected with helminthes parasites causing weakness and severe disease, which may result into death of the host if not treated properly. (Wankhed H J, Gholap A B , 2016). thus the problems of helminthiasis in most parts of the world. Birds are valuable and useful to humans for many reasons. A large proportion of normal food of the birds consists of insects including many that are injurious to man and his concerns.Alni, I (1990), The Helminth parasites utilize the food from the intestinal gut of host. The metabolism depends on the feeding habits and the rich nourishment available in the gut of the host. The parasites use this nourishment for their normal development and growth. A major part of energy source utilized by the parasite is from Carbohydrates. Carbohydrates are chiefly energy source in all parasites. Proteins are the most abundant organic molecules in cells constituting 50 percent or more of their dry body weight. The main significance of the proteins is their role in structural make up of the body rather than in the yield of the energy. Lipids are of great importance to the body of Helminth parasites as the chief concentrated storage form of energy, besides their role in cellular structure and various other biochemical functions. (Pallewad S *et, al.*,2015) Literature reveals that the parasites able to adopt themselves to the parasitic mode of life, only due to protein usually constitutes between 20 and 40 % of the dry weight have been reported The higher content of lipid is found in older proglottids (Brand and Van T ,1952). It is revealed from the present study that there is high content of lipids in the parasites and it also reveals that the parasites is taking advantage of host andabsorbing most of the nourishing material.

II. METHODS AND MATERIALS

The present work done in Department of Zoology P.V.P college Pravaranagar. Thecollection of Parasite in LoniVillage slaughter house.The fresh *Gallus gallus domesticus*intestine were collected and dissect in laboratory, about 8 intestines were dissected out of 4 are that infected and 4 are non-infected. The parasites areseparated for biochemical studies also infected and non infected host intestine are store in 4% formalin, for biochemical studies. Barret, 1982, Jayaraman J, 1996).), After that host intestine and parasite are dry at 57^0c and powder it, then 1 gm of powder dissolve in 5% TCA. The contain of protein in the cestodes parasites were carried out by (Lowry's*et al.*,1951)method, the glycogen contain were carried out by (Kemp *et al.*, 1954) method and lipid estimation (Barnes and Bradstock ,1973), by method.

III. RESULTS AND DISCUSSION

Estimation of protein, lipid and glycogen in cestode parasites and intestine of *Gallus gallus domesticus*are shown in table no. 1. The lipid content was very low in cestode0.015 mg/gm as compared to their Host Intestine (Normal) 0.035 mg/gm and infected intestine of host contained 0.1 mg/gm.The glycogen content of cestode showed 0.092 mg/ gm of tissue whereas in host intestine 0.06 mg/gm.

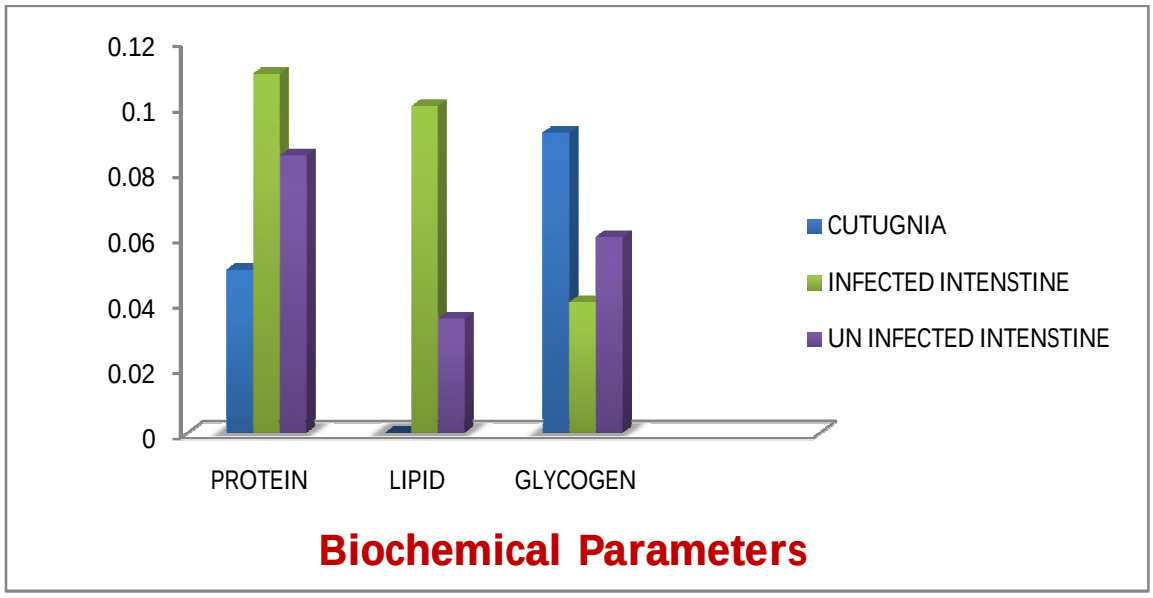
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wt. of tissue of and infected intestine of host contained 0.04 mg/ gm. wt. of tissue. While the protein content was low in cestode0.05 mg/gm. wt. of tissue as compared to their host normal intestine 0.085 mg/gm. wt. of tissue and infected intestine of host contained 0.11 mg/gm. wt. of tissue. From the above biochemical estimation it is concluded that the percentage of lipid is low in parasites as compared to protein and glycogen. These parasites are absorbing most of nourishing from host and fulfilling its need and causing hindrance in the proper development of tissue. (Jadhav *et al.*, 2008).

Table: 1: BiochemicalValues of infeted, non-infected host intestine and Cestode

Name of Parameter	Host Intestine (Normal)	Host Intestine (Infected)	Parasite (Cestode)
Protein	0.085 mg/gm. wt. of tissue	0.11 mg/gm. wt. of tissue	0.05 mg/gm. wt. of tissue
Glycogen	0.06 mg/gm. wt. of tissue	0.04 mg/gm. wt. of tissue	0.092 mg/ gm. wt. of tissue
Lipid	0.035 mg/gm. wt. of tissue	0.1 mg/gm. wt. of tissue	0.015 mg/gm. wt. of tissue

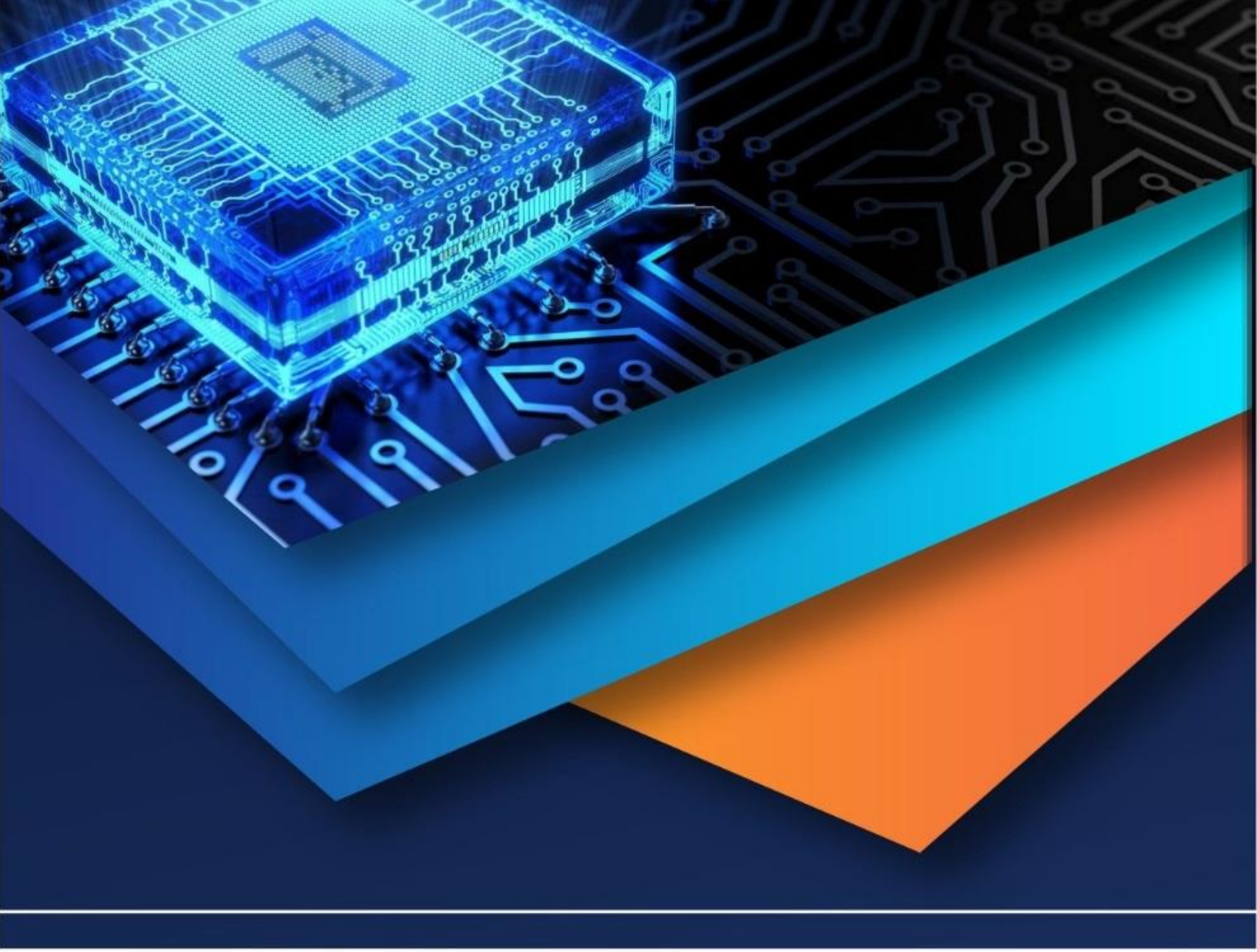
Graph:1: Showing Biochemical Variation of infected, non-infected host intestine and cestode



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