

Thus this has been speculated that IgA antibody is relevant in immune modulation of cestode infection.

Mucosal Mast cells: Mast cells are recognised as cells which play an important role in-

- In the inflammatory response by releasing specific mediators (either at the time of tissue damage or by releasing IgE.
- The increase the vascular permeability and allow the phagocytic cells and complements to reach at the site of damage.

In recent years there are evidence that mucoid mast cells (MMC) differ in various fundamentals from peritoneal mast cells (PMC) These differences are-

Property	Mucosal Mast Cell	Peritoneal Mast Cell
Morphology	Few in number <u>Cytoplasmic granules</u> are variable in size	Many in number <u>Cytoplasmic granules</u> are uniform
Size	9.7 micro meter	19.6 Micro meter
Thymus dependent proliferation	+	-
Life span	Less than 40 days	More than 6 months
Histamine release	resistant	<u>susceptable</u>

These features enable mast cells to fight against cestode infection in the intestine which is characterised by increased mucous production and cell lyses of the cestode body.

Intraepithelial leucocytes In addition to mast cells intestinal epithelium contains number of heterogenous cell types called as Intraepithelial leucocytes. These are closely associated with luminal antigen and many of them contain cytoplasmic granules. Degranulation of these cells and exocytosis of the granular contents enable them to work as immunoregulators and they use to induce the NK cells and T lymphohocytes.

Wakelin (2006) made a review of studies performed in the immune response related to cestode infection and he summerized the responses-

1. Cellular Response

- a. Antigen Recognition by Lymphocytes
- b. Increase in the number of Eosinophils
- c. Granulometous hypersensitivity
- d. Intestinla Mastocytosis
- e. Activation of Macrophageas

2. Serological response

- a. Antibody production (AgA.AgG.IgM)
- b. Synthesis and activation of complements
- c. Hypergammaglobulinaemia

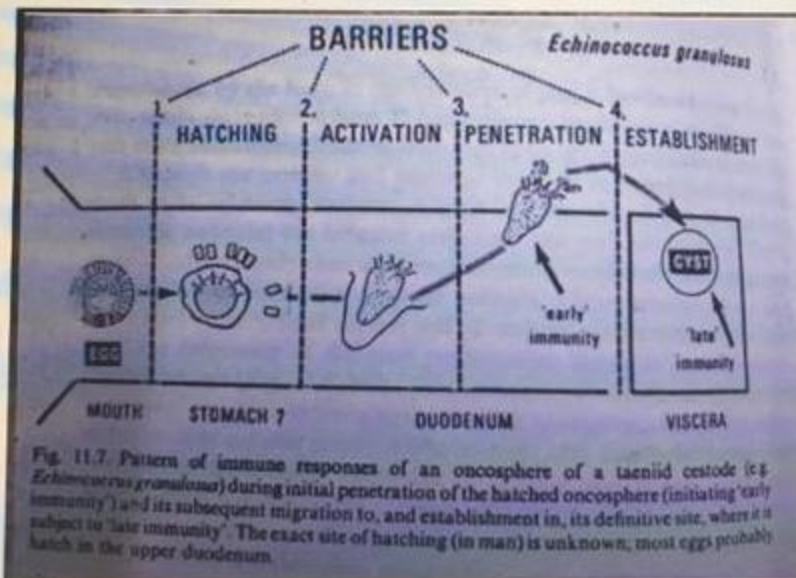
3. Functional Response

- a. Decrease parasitic reproduction
- b. Poor survival of Primary infective stages
- c. Survival of secondary infection

IMMUNITY OF LARVAL CESTODES

Larval cestodes use to make close contact with their hosts at two sites-

- A. During the early phase of infection when immediately hatched oncosphere use to penetrate the host intestine
- B. At the time of final encystment in muscles, visceral organs, nervous system etc.



Allen et al (2004) reported that both T and B cell responses are common in experimental system resulting the initiation of both cellular and humoral responses. These workers divided the larval immune response in two parts-

I. Early or Pre-encystment Immunity

1. Early or Pre-encystment Immunity

Secretory IgA in the alimentary canal and in colostrums plays important role in attacking the oncosphere. Besides this, at later stages increase in population of mast cells, increased production of IgE and IgG antibodies has also been observed.

2. Late or Post encystment Immunity

Predominant cellular responses, increased population of eosiniphils, increase in the number of lymphocytes containing granules in their cytoplasm. These granules are arginine rich proteins (= major basic proteins or MBP). There are evidence that MBP may function in killing of the cestodes both in vivo and in vitro.

IMMUNODIAGNOSIS

Diagnosis of parasitic infection largely depends on parasitological findings, cestodes are not exception to this.