

## Electron Microscopic Studies of Spleen in Chicken (*Gallus domesticus*)

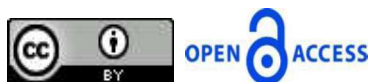
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**Abstract** Electron microscopic studies on spleen of layer chicken were done in various age groups ranging from day-old to forty weeks. The spleen was encapsulated by a connective tissue capsule and the trabeculae were poorly developed in all the age groups studied. The major cellular population of the white pulp included lymphoblasts, lymphocytes of various sizes, follicular dendritic cells and reticulum cells. The splenic red pulp was composed of pulp cords consisted of erythrocytes, reticular cells and lymphocytes of various sizes, macrophages, granulocytes, plasma cells and mast cells. The arterioles that continued into the red pulp formed sheathed capillaries or ellipsoids.

**Keywords** *Electron Microscopy; Spleen; Chicken*

### 1. Introduction

Spleen is the principal organ of systemic immunity and its importance in disease resistance is accentuated by the scarcity of avian lymph nodes. The avian spleen functions as a major blood filtering organ and is the major source of antibody production. It does not function as a reservoir of blood as in mammals and its function is not oriented towards supply of oxygen (Jeurissen, 1991). The spleen also plays an important role in erythrocyte destruction, phagocytosis and antigen-antibody interactions (Burke and Simon, 1970). Though there is extensive work done on the light microscopic details, a little work was done about the ultrastructural studies of the spleen in Chicken. Hence, the present study was designed to explore the details of spleen in the layer chicken of different age groups.

### 2. Materials and Methods

Spleen for transmission electron microscopic studies were collected from six different age groups such as day-old, four, eight, twelve, twenty and forty weeks. Six birds were used in each age group.