

The anatomy and histology of sino-atrial node was studied in the heart of 10 ostriches (*Struthio Camelus*). The SA node is located in the endocardial layer of the atrial surface of terminal part of the sino-atrial valve and the entire right sino-atrial valve of sinus venosus in the right atrium. The parenchyma of the SA node contains 3 types of cells: 1) The P cell is small and pale, with a relatively large nucleus and sparse myofibrils. 2) The transitional cell is slender and contains more myofibrils. 3) The intermediate cell resembles the P cell, but is darker. The SA node is not covered by connective tissue sheath and there is no central artery in the node. But, some nerve fibers are related to the node.

(7) THE ULTRASTRUCTURE OF CONTRACTILE AND PURKINJE CELL IN THE HEART OF RED LEGGED PARTRIDGE

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The structure of contractile and purkinje cells in the heart of 6 partridge was studied by transmission electron microscopy. The specimen was fixed with Karnovsky's solution, post fixed in 1% osmium tetroxide, dehydrated through a graded ethanol series and epoxy propane and embedded in TAAB resin. The ultra thin sections were cut in transverse and longitudinal plane of the chordae, stained with uranyl acetate and lead citrate. The electron micrographs were prepared and studied.

- 1- Contractile myocardial cells possess small nexuses while purkinje cells have many large ones.
- 2- There is no T-tubule in these cells.
- 3- Leptomeres are seen in both cells.
- 4- The glycogen content is very little in purkinje cells while there is more in contractile cells.
- 5- Myofibrils in the purkinje cells are sparse.
- 6- The sarcoplasmic reticulum is well developed in contractile cells but very few in purkinje cells.

(8) STRUCTURE OF ESOPHAGUS AND STOMACH IN A CIPENSERIDAE (huso huso)

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In *huso huso* esophagus has thin and thick plicae covered by squamous epithelium with mucous cells and taste buds. Two types of mucous cells found in epithelium and in both cells they have neutral and acid mucosubstances. There is not muscularis mucosa and in the deep of connective tissue there is nerve fibers and adipose tissue. Tunica muscularis begin as longitudinal fibers, then an external circular is observed and in the end they gradually replaced with smooth muscle and their orientation will change.

Three distinct regions can be identified in those fishes that have stomach. Cardia, fundus and pyloric regions. Not all of these regions can be identified in every fish species. The stomach presents both the cranial and pyloric portion lined with a simple columnar epithelium. Tubular branched glands formed by a single type of glandular cell, located along the stomach, are more numerous in the cranial portion. The histomorphological aspects, as well as the histochemical content and distribution of glycoprotein (Gps) in the mucosa of stomach can be also different in every fish species. The pyloric region of the fish stomach may be devoid of gastric glands or may contain specialized glands.

The J-shaped stomach has a meshwork of the folds in cardia and longitudinal folds in fundic and pyloric region. All of these regions are lined with columnar epithelium. This epithelium becomes taller toward the pyloric. The gastric pits in pyloric is deeper than the other parts. The tubular branched glands are observed in three regions, but in pyloric they aren't developed and in fundus they are longer.



PROCEEDINGS

International Congress on Veterinary Anatomy



Date

November 4th-6th, 2009

Venue

HOTEL TAJ RESIDENCY, LUCKNOW

Organised by

INDIAN ASSOCIATION OF VETERINARY ANATOMISTS (IAVA)