TISSUE AND ORGAN ALTERATION DYSTROPHY HYALINOSIS AMYLOIDOSIS AND LIPIDOSIS

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Abstract
Humans and other complex multicellular organisms have organ systems that work together to carry out processes important to keeping the body alive. The human body has hierarchical structures built upon each other. Cells make up tissues, tissues make up organs, and organs make up organ systems. The functioning of the organ system depends on the coordinated activity of the organs that are part of it.

Keywords: Organ, tissues, cell pathology, multicellular organism, eosinophils, amyloidosis, etc.

Introduction
The survival of the organism depends on the joint activity of all organ systems, which are often controlled by the endocrine and nervous systems. Cells in complex multicellular organisms like humans are made up of tissues, groups of similar cells that work together for a specific task. Organs are structures consisting of two or more tissues organized to perform a specific function, and groups of organs with related functions form different organ systems.
R. Virkhov (1855) is normal from the point of view of cell pathology and the first and most important element of life in pathological conditions! Cell and the substances inside it work according to the laws of physics and chemistry. The simplest structure and function of a multicellular organism. The unit of work is a normal cell, i.e. a normal cell is fed is a creature that digests, moves, excretes. Cell external (exogenous) and internal (endogenous) It always changes its structure and function in response to the influence of various factors will change. The imaging of electron microscopy made it possible to discover that cells have a complex system of organelles, each of these organelles a certain task in the "conveyor" that works constantly inside the cell performs, the same characteristics are characteristic of a living thing

as the cell, the same characteristics are characteristic of organelles. They are constantly on their own has the ability to be renewed, can be damaged under the influence of adverse factors, regenerate, proliferate, that is, it is possible to grow, etc. All vital organs begin to lose some function as you age. Aging changes occur in all of the body's cells, tissues, and organs, and these changes affect the functioning of all body systems.

Living tissue is made up of cells. There are many different types of cells, but all have the same basic structure. Tissues are layers of similar cells that perform a specific function. The different kinds of tissues group together to form organs. There are four basic types of tissue:

- Connective tissue supports other tissues and binds them together. This includes bone, blood, and lymph tissues, as well as the tissues that give support and structure to the skin and internal organs.
- Epithelial tissue provides a covering for superficial and deeper body layers. The skin and the linings of the passages inside the body, such as the gastrointestinal system, are made of epithelial tissue.
- Muscle tissue includes three types of tissue: Striated muscles, such as those that move the skeleton (also called voluntary muscle), Smooth muscles (also called involuntary muscle), such as the muscles contained in the stomach and other internal organs like the female uterus, Cardiac muscle, which makes up most of the heart wall (also an involuntary muscle)
- Nerve tissue is made up of nerve cells (neurons) and is used to carry messages to and from various parts of the body. The brain, spinal cord, and peripheral nerves are made of nerve tissue.

Spontaneous diabetes mellitus associated with deposits of hyaline substance in pancreatic islets has been reported only in man and the cat. In both man and cats, this condition is associated principally with diabetes of maturity. The occurrence of hyaline substance in islets of human patients without a history of overt diabetes mellitus has been suggested to represent instances of potential or unrecognized diabetes mellitus. Hyaline deposits in the islets of Langerhans were also recently reported as an incidental histological finding in a crab-eating monkey (Macaca fascicularis) that had been subjected to an acute toxicity study. Based on histological staining procedures, the islet deposits in the latter report were interpreted to be amyloid. This condition involving the islets of Langerhans of the cat and man has previously been called hyalinosis, hyaline degeneration, fibrosis, or localized amyloidosis.

Occasional eosinophils were evident at the periphery of the amyloid deposits in both cats. Infiltration of islets by eosinophils has been previously reported in infants of diabetic mothers. The presence of these cells could be considered consistent with the concept of amyloid being depositions of immunoglobulin. Lymphocytic infiltration of hyalinized islets in cats has been reported infrequently, but this was not apparent in the two cats studied in this report. Lymphocytic infiltration in the islets of Langerhans (i.e. insulitis) has been induced experimentally in the cow, sheep, and rabbit by prolonged immunization with insulin. An increased number of mast cells has also been reported in human islets replaced by amyloid.

Future investigation of the pathogenesis of amyloid deposition in feline pancreatic islets is warranted to obtain a better understanding of the pathogenesis of maturity-onset diabetes in man and the cat. A unified hypothesis concerning the pathogenesis of amyloidosis in general must also account for instances of localized deposition such as exists in this condition in the cat.

Hypotheses possibly explaining the localized deposition of amyloid pancreatic islets include (i) local production of amyloid by dystrophic protein synthesizing cells and (2) localization of circulating immunoglobulins. Evidence that suggests amyloid is a locally formed substance has accumulated in recent years. The cell type most commonly incriminated in local production of amyloid is a pyroninophilic lymphoreticular cell, but several other cell types (e.g. fibroblasts, glomerular mesangial cells, glomerular epithelial cells, endothelial cells, hepatocytes, pancreatic acinar cells, and thyroid carcinoma cells) also have been implicated. The strongest support for the immunoglobulin origin of amyloid fibrils is the finding of amino acid sequences in highly purified amyloid fibril preparations which are similar to those in light polypeptide chains. It has also been demonstrated that amyloid from selected cases of both "primary" and "secondary" amyloidosis consisted of immunoglobulin protein. The amino acid sequence studies indicate that most amyloid proteins contain the amino-terminal variable region of the light chain, and not the entire light chain. If the latter hypothesis of amyloid formation is correct, amyloid deposition in localized regions such as pancreatic islets could be interpreted to represent an immunopathologic disease process. However, it is possible that amyloid may sometimes result from tissue deposition of proteins other than immunoglobulins. The occurrence of amyloid fibrils with amino acid sequences that have no homology to any previously known immunoglobulin has been reported.

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