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**Histopathological Bodies Aiding In Microscopic Studies**

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**Abstract:**

*The Histopathological studies currently form a strong base to arrive at a correct diagnosis. Different tissues and tumors on microscopic analysis present certain features which are absolutely unique to them. Although they vary in form and configuration but they can be considered as visual hallmarks of these disease patterns. The article describes in brief about the peculiar features of some important tissues and tumors.*

**Key Words:** Schwannoma, Prostate, Schiller, Verocay, Hassal , endodermal, yolk sac.

**Introduction:**

An acoustic neuroma is a benign tumor involving cells of the myelin sheath that surrounds the vestibulocochlear nerve (eighth cranial nerve). Acoustic neuromas are often called vestibular schwannomas because they are tumors that arise from the myelin sheath that surrounds the vestibular nerve. The Verocay bodies represent a distinct pattern of these tumors.

The Thymus is a soft lobulated gland present in the mediastinum which represents a part of Lymphatic system in human body. The Hassals bodies represent a distinct pattern of these tumors. One of the rare type of cancer ovary is the endodermal sinus tumor which is seen in younger adults or children and usually present as a rapidly growing mass and The unique feature is the presence of Schiller Duval bodies .

**Text:**

Acoustic neuromas or Schwannomas are benign peripheral nerve cell tumors composed of Schwann cells. Jose Jaun verocay was an Urugyan physician credited with the discovery of these bodies . Antoni was a Swedish physician credited with further research on peripheral nerve cell tumors .Although predominantly present along the course of vestibulocochlear nerve, they may be present elsewhere in diffuse locations.

Upon microscopic examination, the acoustic neurinoma presents two distinctive architectural patterns, designated Verocay bodies or Antoni A and Antoni B.<sup>1,2</sup> Both are created by spindle cells with elongated nuclei and fibrillated cytoplasm, predominantly those of Schwann cells. The two tissue patterns differ in cellular weave and density. Verocay bodies or Antoni A tissue is compact, with a prominence of interwoven fascicles. Antoni B tissue is porous and less structured. The cells are dispersed randomly about

blood vessels, microcysts, collections of xanthomatous cells and sites of previous hemorrhage. Lymphocytes attest to antecedent degenerative events within Antoni B tissue. The degree of nuclear pleomorphism varies considerably among acoustic neurinomas as well as between different areas within the same tumor. This pleomorphism often contributes a random population of large, bizarre nuclei that taunt the pathologist with thoughts of anaplasia: however, fortunately, malignant transformation is of a rarity that permits individual case reports. Mitotic figures are most infrequent. Necrosis is commonly present but most often testifies to the meagerness of native blood vessels and their compression by tumor expansion within a restricted compartment.<sup>3,4,5</sup>

The Thymus is an organ located posterior to the sternum. It is different from other organs as it undergoes involution. It is well developed in childhood. Around puberty it degenerates and is replaced by adipose connective tissue. Its main function is processing of lymphocytes. The Thymus also has a Connective Tissue (CT) Stroma and a parenchyma. The CT stroma of the thymus is formed of a thin CT capsule and thin CT Trabeculae dividing the thymus into two lobes and multiple lobules. Each lobule has an outer cortex and inner medulla. The cortex is formed of densely packed small rounded cells similar to lymphocytes called Thymocytes. They are round in shape about 7–9 microns in diameter with darkly stained rounded nuclei. The Reticular cells are present in both cortex as well as medulla. They are branched non phagocytic cells and form about 10–20 percent of cells in comparison to thymocytes which form 80–90 percent cells. The Medulla is pale staining. It is composed of scattered thymocytes, reticular cells and characteristic bodies called Hassal's corpuscles.<sup>6, 7</sup> Hassal's Corpuscles are large, acidophilic, rounded bodies consisting of central degenerated reticular cells. Their size ranges from 20–75 microns. Hyaline mass surrounded by concentrically arranged. They were named after Arthur Hill Hassal who discovered them in 1846. They are unique, functionally active, multicellular components of non lymphocytic

environment of thymus. They are believed to have a role in antigen expression, cell signaling, transcription and metabolism.<sup>8,9, 10,11,12</sup>

The Ovarian tumors are classified on basis of various criteria. One of the Variety of Ovarian tumors are the Endodermal Sinus Tumors. These endodermal sinus tumors of ovary are usually seen in younger adults or children and usually present as a rapidly growing mass with increased levels of Alpha protein. The unique feature is the presence of Schiller duval bodies. These are peculiar structures first discovered by Schiller in 1939 and contain a vessel covered by epithelium and were initially named mesonephroma ovarii. The Schiller duval bodies are a feature of endodermal sinus tumors of the ovary. They represent a distinctive perivascular structure of this yolk sac tumor. It consists of the central vessel surrounded by tumor cells. With the whole of the structure contained in a cystic space lined usually by flattened tumor cells.<sup>13,14</sup>

### **Conclusion:**

The Histopathological examination represents an important aspect of diagnosis and treatment. Recognition of tumor subtypes and related pathological changes form a backbone of modern therapy. By virtue of recognizing these special bodies, one can reach to a Histopathological diagnosis.

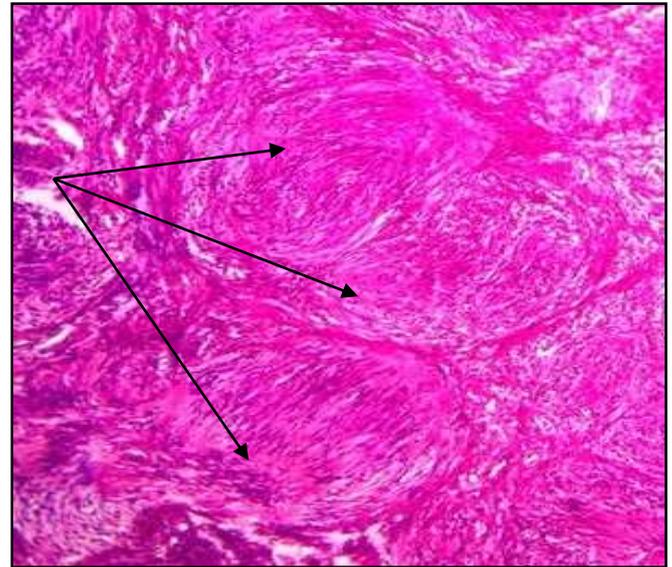
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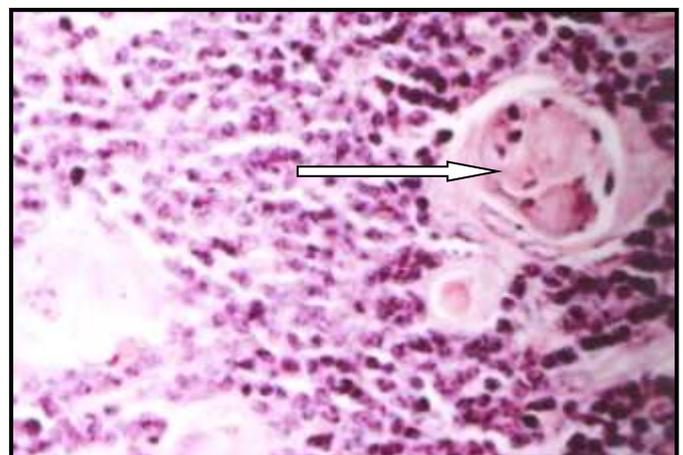
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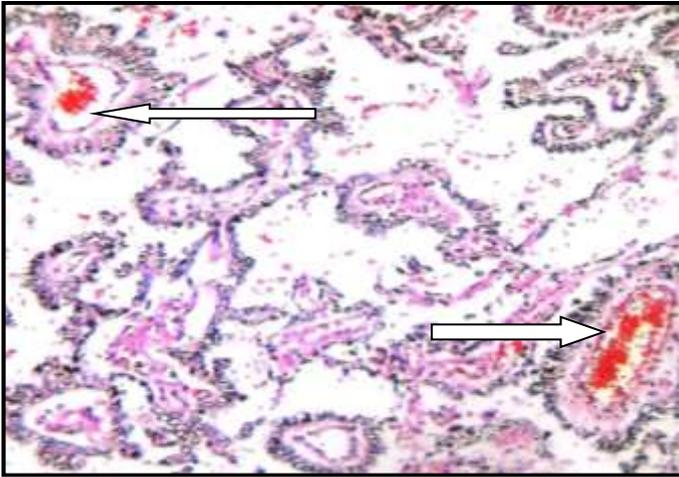
**Fig 1 : Verocay Bodies in Acoustic Neuroma**



**Fig 2 : Hassalls Bodies in Normal Thymus**



**Fig 3 : Hassals Bodies in Normal Thymus**



**Fig 4 : Schiller Duval Bodies in Endodermal Sinus Tumor**