

Ameloblastoma

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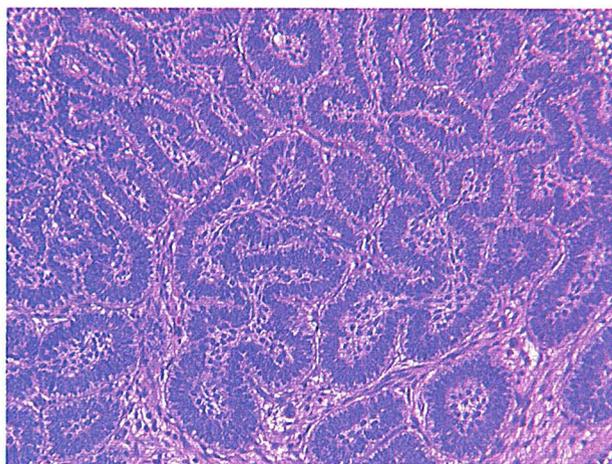


Figure 1. In this solid ameloblastoma, the jigsaw-like arrangement of peripherally palisaded ameloblasts (dark blue-staining nuclei) with subnuclear vacuolization (reverse polarity) is seen around a central, loose stellate reticulum.

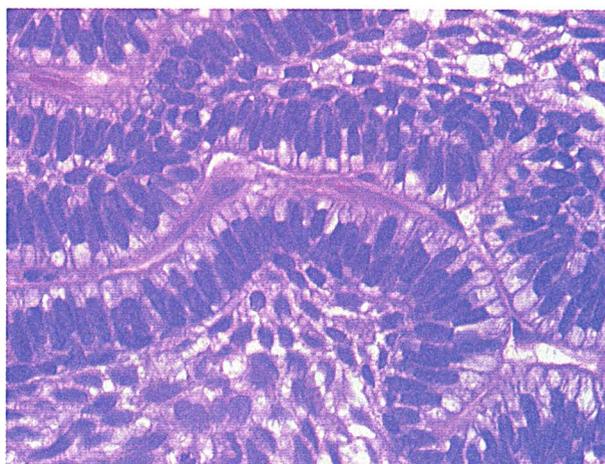


Figure 2. This solid ameloblastoma exhibits the characteristic subnuclear vacuolization (clear space next to the blue-staining nucleus).

Ameloblastomas are locally aggressive gnathic tumors that have a high propensity for recurrence. They are believed to arise from remnants of the odontogenic epithelium or the developing enamel organ. They occur in patients over a wide spectrum of ages and equally among the sexes, as a slow-growing, often asymptomatic, locally invasive tumor. Radiographic images usually demonstrate a multilocular, expansile radiolucency of bone, usually of the posterior mandible.

The tumor is made up of a blend of ameloblasts and epithelial cells that try to duplicate the enamel organ. It is characterized by a jigsaw-like configuration of the ameloblasts, which exhibit a reverse polarity of cells (also known as *Vickers-Gorlin change*), and a stellate reticulum in the center (figure 1).¹ The ameloblastic cells are columnar epithelial cells palisaded about the periphery of the tumor nests, with a subnuclear vacuolization away from the basement membrane. These cells surround a central core of loosely arranged cells that is similar to the

stellate reticulum of the enamel organ. The subnuclear vacuolization (reverse polarity) of the ameloblastic cells is quite characteristic (figure 2).

Immunohistochemical and histochemical studies are generally not warranted for this neoplasm. These tumors are classified into four categories based on their clinical behavior, anatomic location, radiographic appearance, and/or histologic features: solid (multicystic), unicystic, desmoplastic, and peripheral. The solid ameloblastoma has a number of microscopic subtypes, but they do not have a bearing on clinical behavior.

Marginal resection approximately 1 cm past the radiographic boundary is the treatment of choice. Recurrences (up to 25%) usually occur within a year of the initial surgery.

Reference

1. Vickers RA, Gorlin RJ. Ameloblastoma: Delineation of early histopathologic features of neoplasia. *Cancer* 1970;26:699-710.