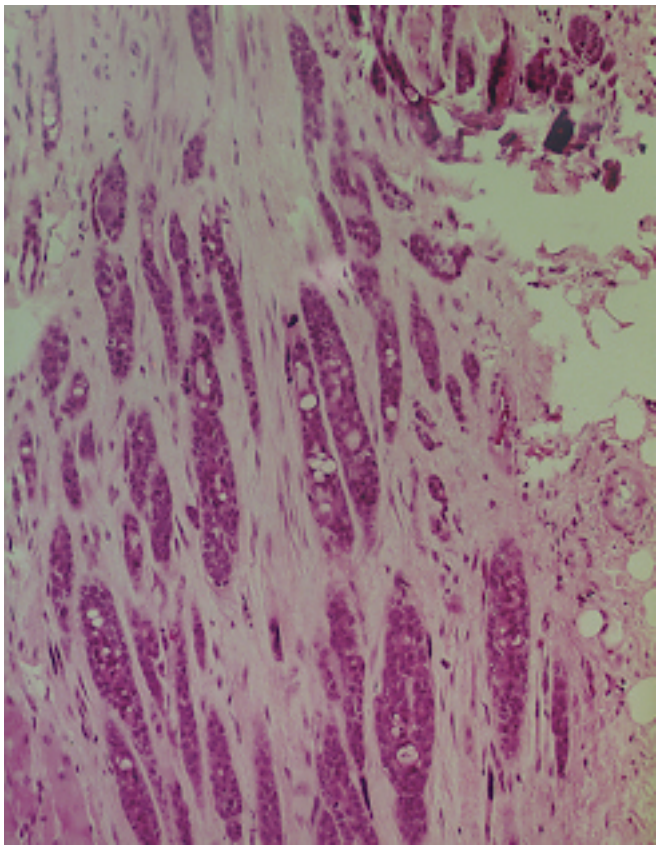
Polymorphous Low-Grade Adenocarconoma (Terminal Duct Carcinoma)

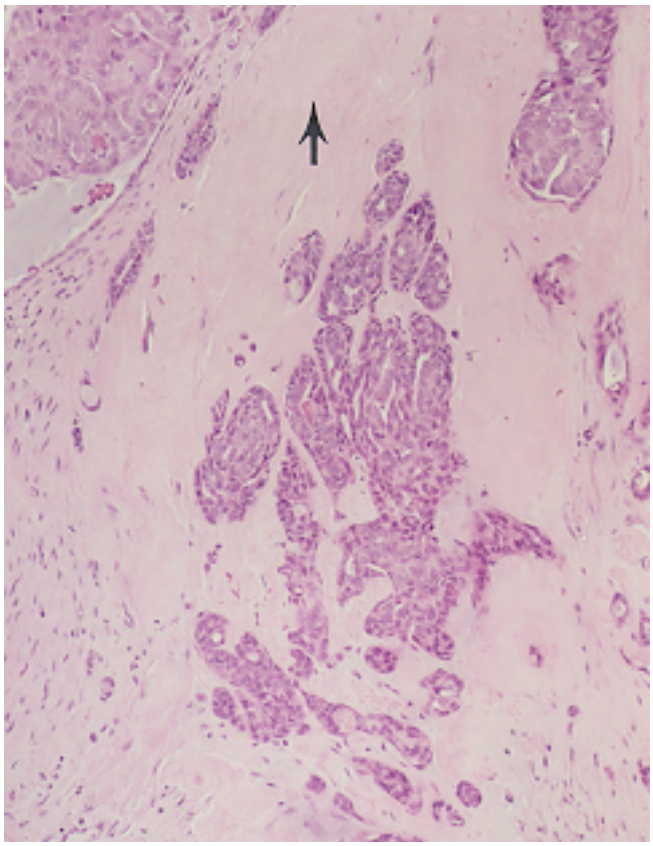
First named in 1983, this malignant tumor formerly was variously described as a variant of adenoid cystic carcinoma, pleomorphic adenoma or adenocarcinoma. Most of these tumors are found in older women, especially in the minor salivary glands of the palate, or other minor salivary glands, but only rarely in the major salivary glands.

Microscopically, there are a variety of cellular growth patterns providing the name polymorphous, whereas the individual cells are rather uniform. There may be sheets or tubes of cells or large cystic shapes. A very characteristic arrangement of cells forms the so-called "Indian file" pattern seen especially near the periphery of the invading tumor. The tumor cells are cuboidal to columnar, with dark, small nucleoli and are deceptively uniform. Cytoplasm is eosinophilic. Small psammoma bodies and intranuclear cytoplasmic inclusions may be present. There often is a resemblance to adenoid cystic carcinoma because of a cribriform pattern and perineural infiltration. Metastasis is to regional nodes.

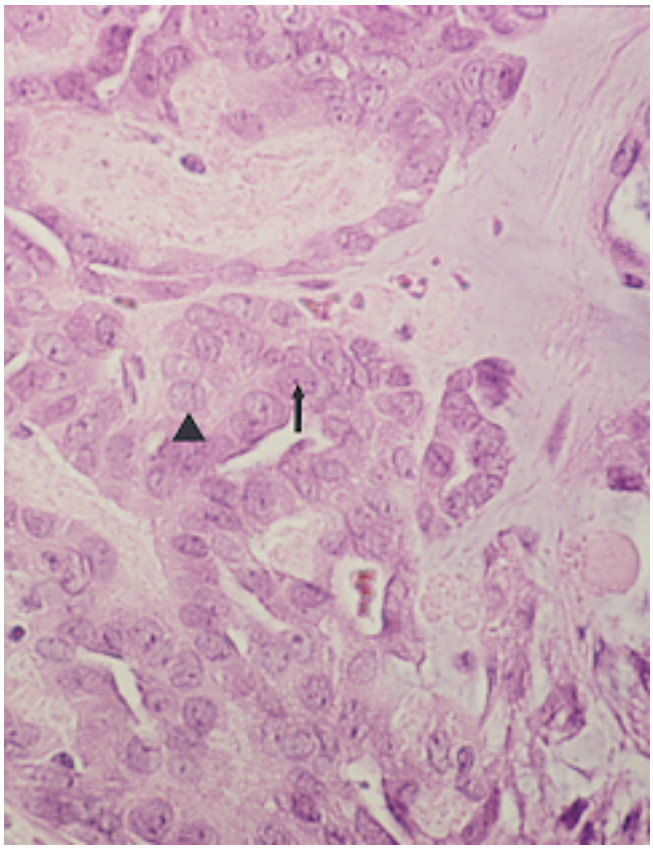
Polymorphous low-grade adenocarcinoma. Characteristic "Indian file" pattern at periphery of the infiltrating tumor.

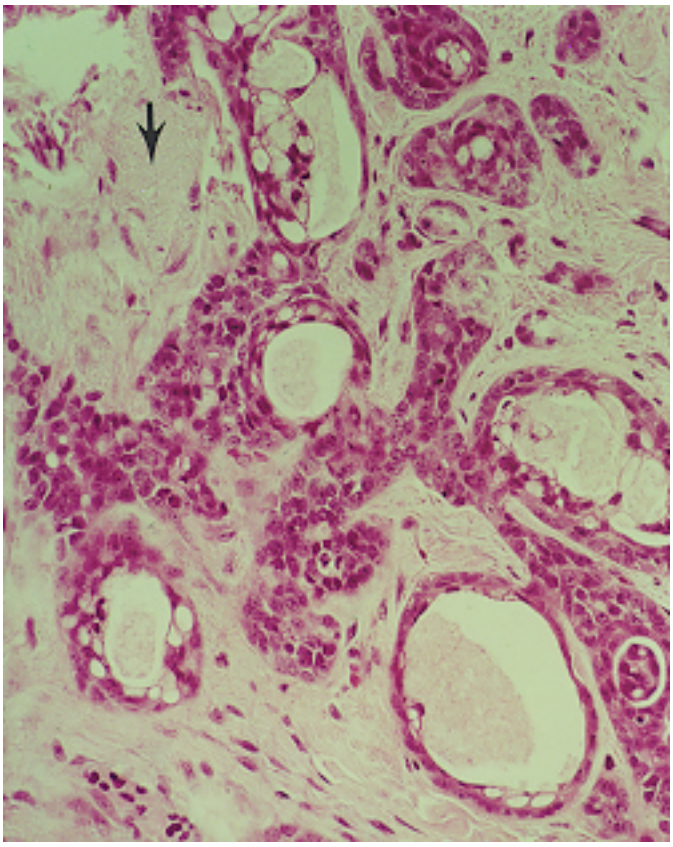


Polymorphous low-grade adenocarcinoma. Overall, the appearance is rather bland. The stroma not uncommonly has a hyaline appearance (arrow).

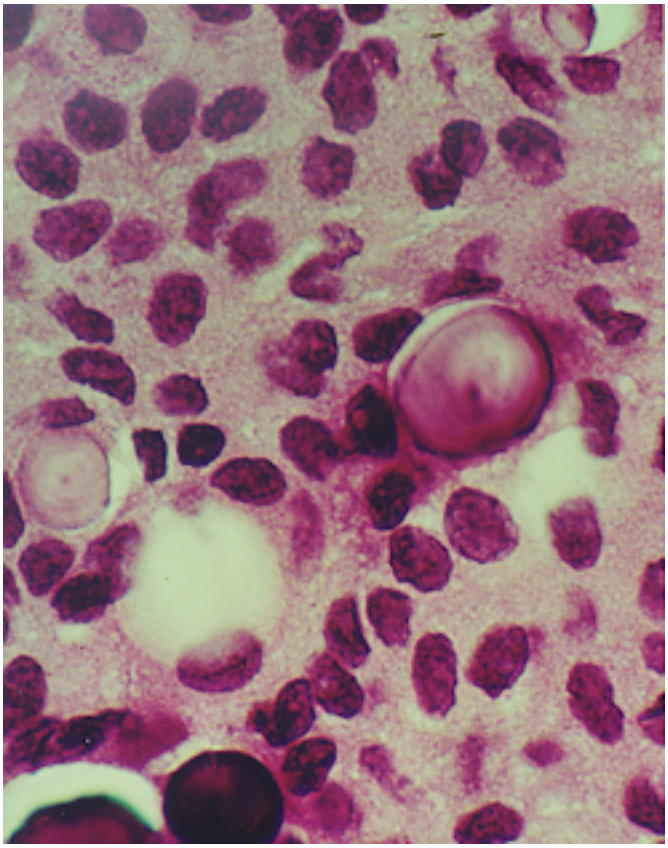


Polymorphous low-grade adenocarcinoma. Cellular detail showing rather vague cellular outlines. There are round to ovoid vesicular nuclei (triangle) with small nucleoli (arrow), finely dispersed chromatin and eosinophilic cytoplasm. All cells appear rather uniform. A tubular pattern is seen.



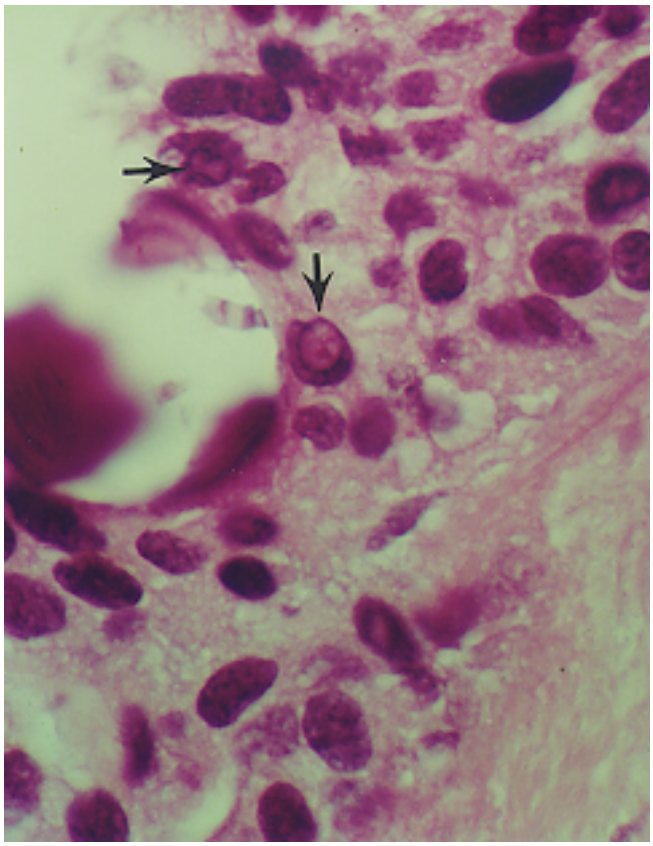


Polymorphous low-grade adenocarcinoma, showing cystic spaces as the growth pattern. The stroma is mucoid (arrow) in contrast to the hyaline stroma of upper right photo.



Polymorphous low-grade adenocarcinoma. Psammoma bodies, are found in some of these tumors. The tiny dots at the centers of two of these structure represent their origin. Two other psammoma bodies are dark and fully calcified. The surrounding tumor cells show oval nuclei and indistinct nucleoli. The cytoplasmic margins of the cells are indistinct.

Polymorphous low-grade adenocarcinoma. Intracytoplasmic nuclear inclusions (arrows), a feature found in some tumors. A shattered psammoma body lies adjacent.



Clinical Aspects

Usually the tumor is a painless mass, commonly in the palate, and often of long standing. Wide surgical excision offers a high rate of cure. Cervical metastases are uncommon. Death from the tumor is uncommon and the perineural invasion seen microscopically does not seem to worsen prognosis as it does, e.g., with adenoid cystic carcinoma.