

Epithelial-Myoepithelial Carcinoma of the Salivary Gland

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The World Health Organization (2005) defines an epithelial-myoepithelial carcinoma (EMC) as a malignancy composed of two cell types that typically form duct-like structures.¹ We present herein an archival case from the parotid gland.

EMC occurs primarily in the major salivary glands particularly in the parotid where it presents as a painless, slow-growing mass.¹ Microscopic examination shows bi-layered tubular duct-like structures with pale to clear areas (Figure 1). The inner luminal layer is composed of cuboidal cells that are of **epithelial** derivation while the outer layer is composed of polygonal cells that are of **myoepithelial** derivation (Figures 2 and 3). The latter typically have abundant clear cytoplasm.^{1,2} The epithelial-myoepithelial dualism is confirmed using immunohistochemical stains; the epithelial cells being immunoreactive for low molecular weight keratin and the myoepithelial cells for S-100 protein, muscle specific actin, vimentin and p63.^{1,3}

EMC is primarily a tumor of adulthood with peak incidence in the sixth and seventh decades. First described by Donath *et al.* in 1972,³ they are rare salivary gland neoplasms with an incidence of less than 1% arising mainly in the parotid gland⁴ although they have been documented in the lungs.⁵ Perineural and vascular invasion are frequent and recurrence occurs in around 40% of cases and metastasis in 14%.¹ Although thought to be of low-grade malignancy, fatal courses have been described⁴ and “analysis of the various series have demonstrated that tumors with a solid growing pattern, nuclear atypia, DNA aneuploidy and high proliferative activity, generally have a more aggressive behavior and a higher frequency of local recurrences and metastases.”³

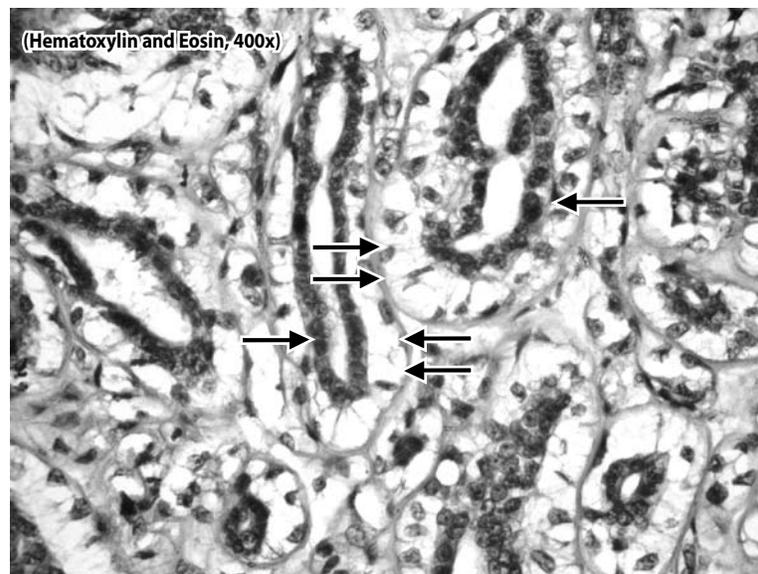
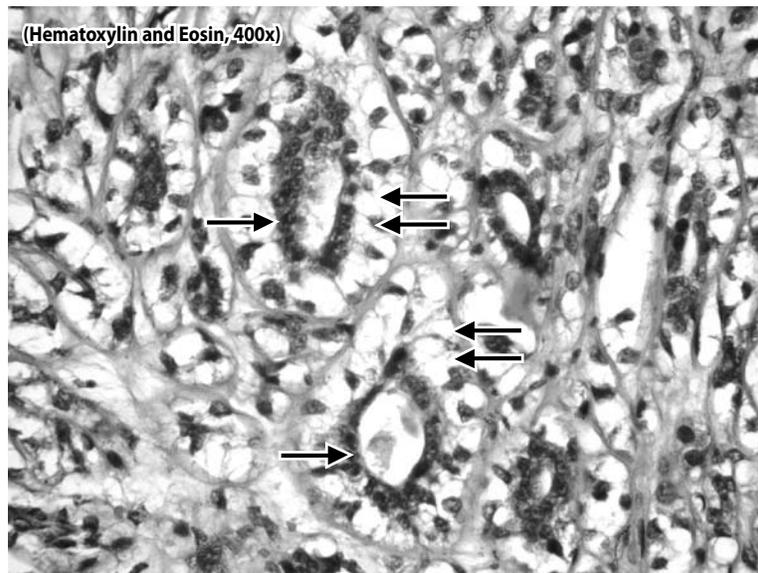


Figure 1. Tubular structures (single arrow) interspersed with pale to clear areas (double arrows) (Hematoxylin and Eosin, 100x)

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Figures 2 and Figure 3. Tubular structures lined by a luminal layer of ductal **epithelial** cells (single arrow) with an abluminal layer of **myoepithelial** cells with clear cytoplasm (double arrows) (Hematoxylin and Eosin, 400x)

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