

Chapter 13

Malignant Epithelial Tumors of the Parotid Gland

ABSTRACT

Cancer of the parotid gland represents about 20% of all parotid tumors. It either occurs “de-novo” or “on top of pleomorphic adenoma.” There is no sex predilection, and the age of developing this cancer is usually above 50 years. Malignant tumors are as varied as their benign counterparts. Certain tumors are “low-grade” (polymorphous low-grade adenocarcinoma, acinic cell carcinoma, epithelial-myoepithelial carcinoma), while others are “high-grade” (salivary duct carcinoma, large cell carcinoma, and small cell carcinoma). The first echelon lymph node (LN) of metastases is the intra- and peri-glandular nodes. The next echelon is level II LNs. Hematogenous spread occurs very late and is mainly to the lungs and bones. However, adenoid cystic carcinoma tends to grow through peri-neural lymphatics with increased risk of nerve involvement, intra-cranial extension, and increased rate of recurrence. In this chapter, characteristic features and management of the individual types of malignant parotid tumors will be discussed.

MALIGNANT TRANSFORMATION OF BENIGN TUMORS

Signs of *malignant transformation* in a pre-existing benign tumor of the parotid gland include rapid rate of growth, harder consistency, or fixation to the underlying muscles or the overlying skin, which may be severe enough to

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show fungation. The tumor may also show erythema and increased vascularity giving the appearance of a parotid abscess.

The patient may develop pain and tenderness which are usually due infiltration of the auriculo-temporal nerve with the pain being referred to the ipsilateral ear. Trismus due to invasion of the masseter or pterygoid muscles, or due to restricted movements of the temporo-mandibular joint (TMJ) is another finding.

In approximately 10% to 15% of the cases, the facial nerve will be paralyzed. Unequal pulsations of superficial temporal artery may as well be noticed. Manifestations of metastases to regional lymph nodes or distant organs such as the lungs or the liver may ensue. On the first suspicion of any change in the behavior of the pre-existing tumor, FNAC should be done immediately after MRI preferably with a diffusion-weighted and perfusion sequences.

CHARACTERISTIC FEATURES OF MALIGNANT EPITHELIAL TUMORS

Mucoepidermoid Carcinoma (MEC)

This is the *commonest* malignancy of the salivary glands (Foote, 1953; Shafique, 2020) and that of the parotid gland (80% of cases) seems to be less aggressive than that of the submandibular gland (8-13% of cases) and of better prognosis (Waldron & Koh, 1990). It mostly occurs around an age of 50 years, but still, it is the commonest salivary malignancy of the pediatric age group (Waldron, 1990; Browand, 1975). In some series, MEC is more common in women by a ratio of 3:2 while in others there is no sex predominance.

Low-grade and high-grade variants are recognized, where the low-grade one very rarely metastasizes (Boahene, 2004; Gustafsson, 1987). It usually presents as a slowly growing painless mass; however, rapid growth, pain and tenderness may be seen with the high-grade variant (Ogawa, 1992; Terada, 2004) (Figure 2). Metastases occur to LNs, lungs and bones (Waldron, 1990; Browand, 1975). Shafique et al. (2020) studied the clinicopathological features of MEC using a 3-tier grading system (low, intermediate and high) in 69 patients. They reported that aggressive clinical behavior was seen in the high-grade MEC compared to the intermediate- and low-grade MEC.

Treatment is mucoepidermoid carcinoma (MEC) is surgical resection with neck dissection being reserved for high-grade variants (Boahene et al, 2004).

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