

Evidence Discussion (ONC 4.1-4.4)

Salivary Gland Cancers

Workup of salivary gland disorders and neck masses is found in eviCore guidelines Neck 11 and Neck 5.1, with pertinent evidence summary housed in the evidence summaries of those sections. It is notable that initial staging workup refers for biopsy proven malignancy, given that 80% of parotid tumors are benign, though there are indications for neck imaging noted in the above sections accounting for relevant risk factors and symptoms.

Initial Staging

There are over 40 histologies of salivary gland malignancies, with different patterns of presentation and invasiveness. The choice of MRI vs CT depends on location of tumor, specific symptoms, and patient characteristics. CT may be useful to assess stones and sialadenitis, which may mimic tumor, and is superior for assessing cortical bone erosion. MRI is superior in the assessment of extent of soft tissue disease and perineural invasion. Contrast is recommended in all studies to better outline primary site and to better assess nodal involvement.

In patients who present with metastatic disease outside the neck, 90% are lung /chest node metastases. Metastatic disease to lung is most common with adenoid cystic carcinoma and chest imaging is supported in all patients with this histology. Contrast should be used to allow for assessment of nodal disease in the chest. In other histologies, metastatic disease is less common, and thus chest imaging is only supported in patients with neck adenopathy, abnormal chest Xray, or pulmonary signs and symptoms.

Perineural and skull base invasion may occur with salivary gland cancers, particularly with adenoid cystic carcinoma, where perineural spread is seen in 50-60% of patients. When skull base invasion is clinically suspected an MRI brain with and without contrast is supported by eviCore guidelines in the interest of patient safety. MRI with and without gadolinium and with fat-saturated, T1 weighted MRI sequences is the most sensitive technique to evaluate for invasion of skull base and perineural invasion.

The role of PET/CT remains controversial in salivary gland cancers. Several studies show no statistically significant difference in outcomes with imaging with PET/CT vs conventional imaging. The rate of change in treatment plan based on imaging with PET/CT is widely variable across studies, ranging from 15-47%. PET/CT is not adequate to distinguish benign from malignant parotid tumors. Benign tumors such as Warthin tumor can have FDG uptake, and low-grade malignant tumors may not take up FDG. Healthy salivary glands may also exhibit FDG uptake and obscure tumors. While there is emerging evidence in the use of FDG-PET/CT and PET/MRI to assess for distant disease and perineural spread, it is not considered routine at this time and is not routinely recommended by the NCCN.

Restaging

EviCore guidelines align with NCCN level 2A recommendations for restaging. CT or MRI based on initial tumor and patient characteristics is supported every 2 cycles of systemic chemotherapy. If recurrence or progression is clinically suspected at any time, CT neck with contrast or MRI without and with contrast is supported based on prior tumor characteristics and symptoms, per NCCN recommendations and ACR appropriateness criteria. The incidence of metastatic disease to the chest is higher at recurrence than at initial presentation, with 63% of patients with metastatic recurrence presenting with metastatic disease to the chest, so CT chest is supported for suspected recurrence. Contrast should be used to allow better assessment of nodal disease, in addition to parenchymal lesions. Any CNS symptoms warrant MRI with further guidance in eviCore guideline ONC 31.3.

Surveillance

The mainstay of surveillance for head and neck cancers including salivary gland carcinoma are frequent history and physical examination. For most histologies, no survival benefit has been documented with imaging surveillance over clinical surveillance. The NCCN notes most recurrences are picked up by patient report of symptoms. For all histologies other than adenoid cystic carcinoma, eviCore guidelines support imaging of the primary tumor site once within 6 months from completion of therapy to establish post-treatment baseline, with further imaging guided by signs and symptoms of recurrence. Adenoid cystic carcinoma has the highest incidence of metastatic disease, with over 60 percent of patients presenting with metastatic disease at recurrence having a history of this histology. They also have the longest risk of recurrence, with a median time to recurrence of 3 years with some recurrences occurring as late as 10 years from diagnosis. For patients with a history of adenoid cystic carcinoma, CT neck with contrast or MRI orbit/face/neck as well as CT chest with or without contrast are supported annually for up to 10 years.

References

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