

A Multidisciplinary Approach to Head and Neck Cancer

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Presenter's disclosure of conflicts of interest is found at the end of this article.

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Abstract

At JADPRO Live Virtual 2020, Casey Fazer-Posorske, PA-C, provided updates in the management of patients with head and neck cancer, including the types of head and neck cancers, their associated treatments and side-effect management, the role of de-escalation treatment, and the prevalence of HPV infection and role of vaccination in the prevention of head and neck cancer.

Head and neck cancer accounts for more than 550,000 cases and 380,000 deaths annually around the world. During JADPRO Live Virtual 2020, Casey Fazer-Posorske, PA-C, of Mayo Clinic, described the various types of head and neck cancers along with associated treatments and side-effect management. Ms. Fazer-Posorske also discussed the prevalence of human papillomavirus (HPV) infection and the role of HPV vaccination in the prevention of head and neck cancer.

RISK FACTORS IN HEAD AND NECK CANCER

Ms. Fazer-Posorske reported that approximately twice as many men as women acquire head and neck cancers, and people over the age of 50 are more likely to be diagnosed. In addition, most cancers of the head and neck are due to alcohol and tobacco. About 70% of cancers

in the oropharynx, on the other hand, are linked to HPV. Epstein-Barr virus (EBV) can also raise the risk of cancers in nasopharynx and salivary glands.

While HPV-negative cancer patients are usually smokers with heavy alcohol use and poor oral hygiene, HPV-positive patients are associated with increased lifetime sexual partners and oral sex. Nevertheless, Ms. Fazer-Posorske noted that seeing HPV-positive patients with a significant smoking or alcohol history is not unusual.

“Just because these are two separate diseases does not mean they cannot be intertwined at all,” she said.

TREATMENT

Treatment for head and neck cancers is a multidisciplinary approach with the goal of maximizing survival with preservation of form and function (Figure 1). All patients should be evaluated by a head/neck surgeon to

determine if their primary tumor is resectable, unresectable, or inoperable. The goal is to have complete tumor resection with histologic verification of tumor-free margins. Transoral robotic surgery is a new procedure and minimally invasive, said Ms. Fazer-Posorske, but neck dissections are also commonly performed.

Following surgical resection, the pathology report is used to determine whether treatments have adverse features. If they do not have adverse features, patients typically receive radiation alone or sometimes no radiation at all. If pathology indicates extracapsular extension, the patient will receive chemoradiation. With positive margins, the options are to re-resect or treat with chemoradiation.

With nonsurgically resectable disease, the options are either induction chemotherapy followed by chemoradiation or starting with chemoradiation right away.

“If we have a rapidly growing tumor, we will often give them some form of induction before we start chemoradiation all together,” said Ms. Fazer-Posorske.

RADIATION THERAPY

Radiation therapy is typically intensity-modulated radiation therapy (IMRT) or proton beam therapy (PBT). IMRT is comprised of multiple small photon or proton beams of varying intensities to precisely irradiate a tumor. Different dose levels are assigned to different structures within the same treatment. The radiation intensity of each beam is controlled, and the beam shape changes throughout each treatment.

Unlike regular radiation treatment, however, PBT uses protons to send beams of high energy that can target tumors more precisely.

“After delivering the energy to the tumor, the protons stop; they do not exit the tumor,” said Ms. Fazer-Posorske, who noted that this approach has become increasingly prevalent. “Proton therapy reduces radiation exposure and potential damage to healthy tissue by delivering energy to the tumor.”

INDUCTION CHEMOTHERAPY

Generally used prior to definitive chemoradiation, induction chemotherapy is typically cisplatin based. Examples of induction chemotherapy include cisplatin/docetaxel/5-FU or cisplatin/paclitaxel/5-FU. Following induction, systemic agents with concurrent radiation usually include weekly cisplatin, weekly carboplatin, or weekly cetuximab. Data from the recent RTOG 1016 trial showed that cetuximab plus radiotherapy is inferior to cisplatin plus radiotherapy (Gillison et al., 2019).

“In our department, we use induction if surgery cannot be done and we need to shrink the tumor or if we need to act quickly while waiting for radiation to simulate,” said Ms. Fazer-Posorske. “No statistically significant effect on overall survival has been seen with induction chemotherapy vs. surgery and/or radiation alone.”

DEFINITIVE CHEMORADIOTHERAPY

With definitive chemoradiotherapy, first-line treatment is cisplatin: high dose (once every 3 weeks) or weekly. Although there was a trend for improved survival with high-dose cisplatin, a retrospective review showed no significant survival difference between patients with locally advanced head and neck squamous cell carcinoma treated with adjuvant chemoradiation therapy with high-dose or weekly cisplatin (Geiger et al., 2014).

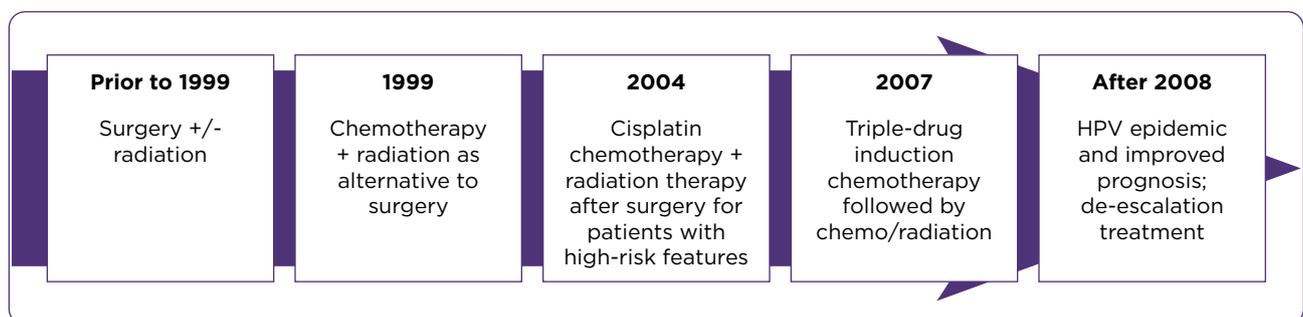


Figure 1. Evolution of treatment.

ADJUVANT CHEMORADIOTHERAPY

In the adjuvant setting, patients with extracapsular extension of lymph nodes or those who have positive margins of tumor on surgical pathology should be strongly considered for postoperative chemoradiation therapy. According to Ms. Fazer-Posorske, the preferred interval between resection and postoperative chemoradiation is 4 to 6 weeks. Chemotherapy is given concurrently with radiation, which is 5 days a week for 6 weeks (adjuvant) or 7 weeks (definitive).

Ms. Fazer-Posorske noted that systemic chemotherapy with high-dose (100 mg/m²) or weekly (40 mg/m²) cisplatin is recommended but acknowledged controversy when selecting the dose. Although studies have shown superior outcomes with high-dose chemotherapy, there are also studies that demonstrate increased side effects, so the decision should be made based on the patient profile.

“There are times when we’ll start patients on high-dose cisplatin, and if they can’t tolerate it, then we will switch to weekly cisplatin,” she said. “If patients cannot tolerate cisplatin, other chemotherapy options can be considered, but there is no high-quality evidence for the use of cetuximab, carboplatin, or docetaxel.”

DE-ESCALATION TREATMENT FOR HPV

Ms. Fazer-Posorske reported that HPV-associated oropharynx cancers have a favorable prognosis compared with oropharynx cancers that are HPV negative. Although not standard of care, de-escalation strategies are being explored to potentially deliver the same high cure rate with less toxicity.

“Standard combined modality treatment approaches yield high cure rates, but acute and long-term toxicities can be challenging,” said Ms. Fazer-Posorske, who noted multiple ways in which treatment can be de-escalated: minimally invasive surgery, de-intensified radiotherapy, and eliminating chemotherapy. “However, it’s still unclear whether there should be one de-escalation strategy for all patients or whether de-escalation strategies should be individualized.”

RECURRENT AND/OR METASTATIC HEAD AND NECK CANCER

The prognosis of recurrent or metastatic head and neck squamous cell cancer is generally poor, with

median survival between 6 and 15 months depending on patient- and disease-related factors.

“I offer patients a rough estimate of what the bell curve shows, and I’m honest with them throughout their treatment,” said Ms. Fazer-Posorske. “As they progress through different treatment regimens, I let them know how many more treatment regimens we have, and that gives them more of a time frame.

“If you’re up front with patients, they appreciate that more than anything,” she added.

Ms. Fazer-Posorske also noted that the pattern of distant metastases is different for HPV-positive patients, who have improved prognosis even in metastatic setting.

“We tend to be more aggressive with HPV-positive patients with oligometastatic disease because we know that they can live longer,” said Ms. Fazer-Posorske. “We’ll consider surgery if it’s a wedge resection, stereotactic body radiation therapy, or cryoablation to the liver.”

IMMUNOTHERAPY

Immunotherapy is still relatively new to this disease, and it’s very exciting, said Ms. Fazer-Posorske, who noted that two immunotherapy agents are currently approved: pembrolizumab (Keytruda) and nivolumab (Opdivo).

Pembrolizumab, an anti-PD-1 inhibitor, was approved in August 2016 for recurrent or metastatic head and neck squamous cell carcinoma with disease progression on or after platinum-containing chemotherapy. In 2019, the U.S. Food & Drug Administration (FDA) approved pembrolizumab for first-line treatment of head and neck squamous cell carcinoma for patients whose tumors have a combined positive score ≥ 1 .

Nivolumab was approved in November 2016 for recurrent or metastatic head and neck squamous cell carcinoma with disease progression on or after platinum-containing chemotherapy.

THE HPV 16 EPIDEMIC

The HPV 16 epidemic has taken off in the head and neck and cervical cancer world, said Ms. Fazer-Posorske, who noted that HPV 16 is a DNA virus that causes over half of cervical cancers and two thirds of oropharynx cancers. HPV infection occurs in the majority of people after sexual debut,

but clears within 2 years in at least 90% of those infected. Unfortunately, said Ms. Fazer-Posorske, patients whose immune system does not clear the virus will develop some form of cancer.

“We promote the vaccine in our clinic,” said Ms. Fazer-Posorske. “Although patients may not be eligible themselves anymore for the vaccine, we encourage patients to educate their family, their friends, their children, and their grandchildren about getting vaccinated.”

According to the Centers for Disease Control and Prevention, HPV-positive oropharyngeal cancer has surpassed cervical cancer as the most prevalent type of HPV-related cancer in the United States. On June 12, Merck announced that the FDA had approved an expanded indication for Gardasil 9—an HPV 9-valent vaccine—for the prevention of oropharyngeal and other head and neck cancers caused by HPV types 16, 18, 31, 33, 45, 52, and 58.

Although there are three different vaccines, Gardasil 9 is the vaccine of choice, said Ms. Fazer-Posorske. ●

Disclosure

Ms. Fazer-Posorske had no conflicts of interest to disclose.

Reference

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