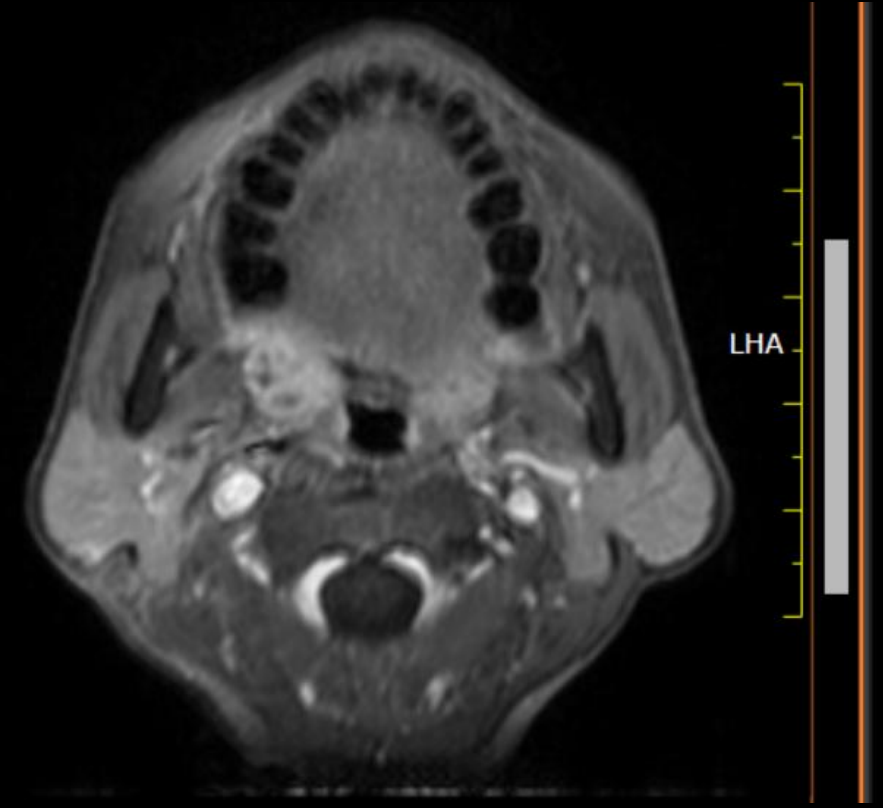
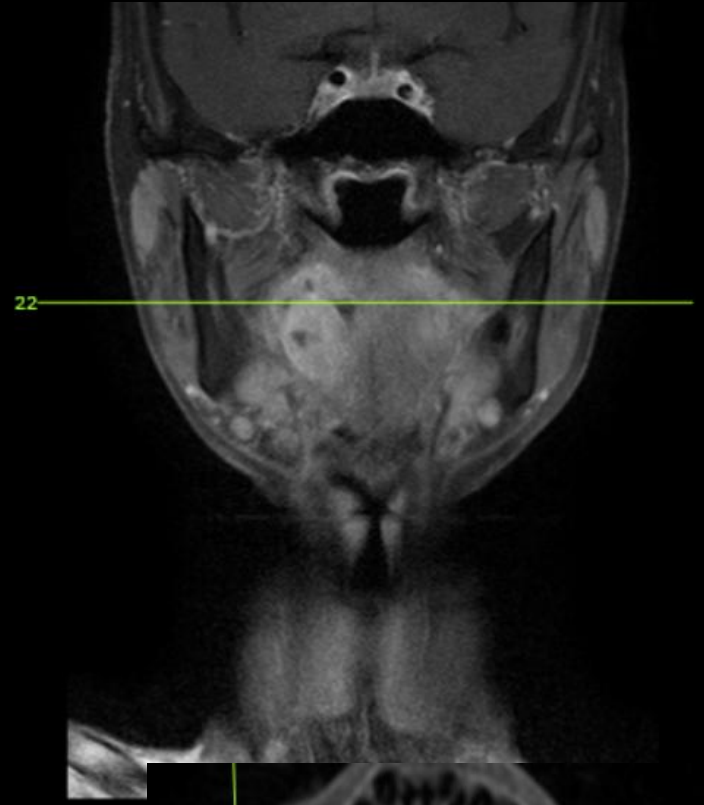
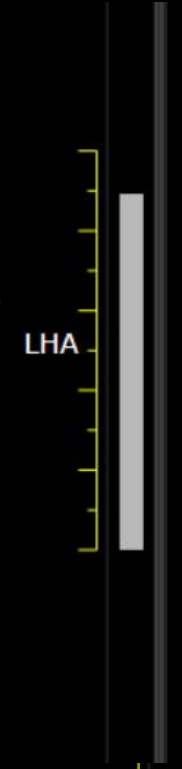
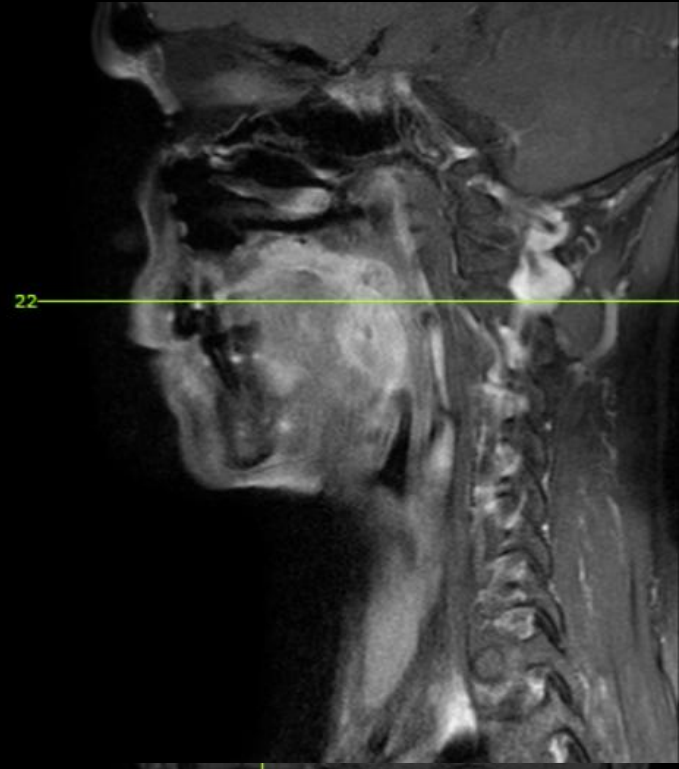
SJMCH, Bengaluru

Contributor of the Series

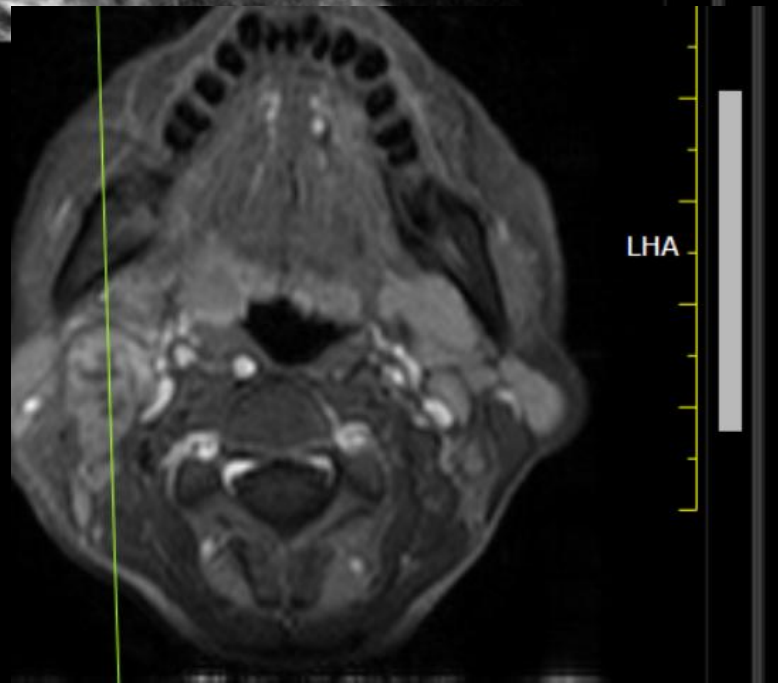


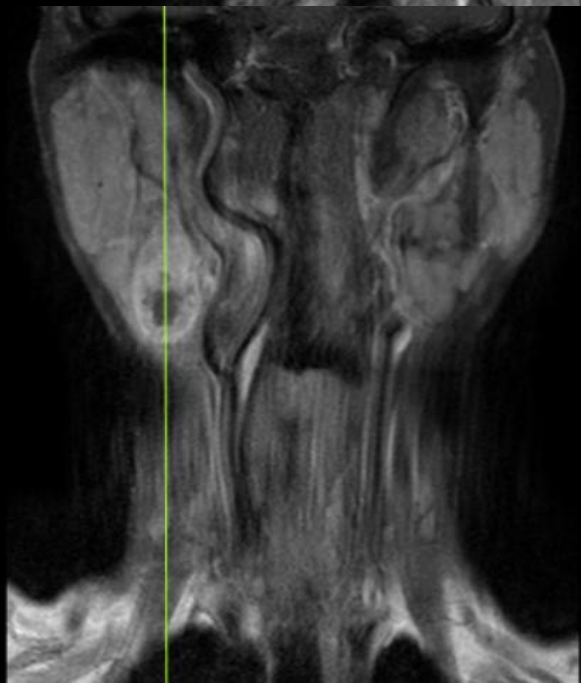


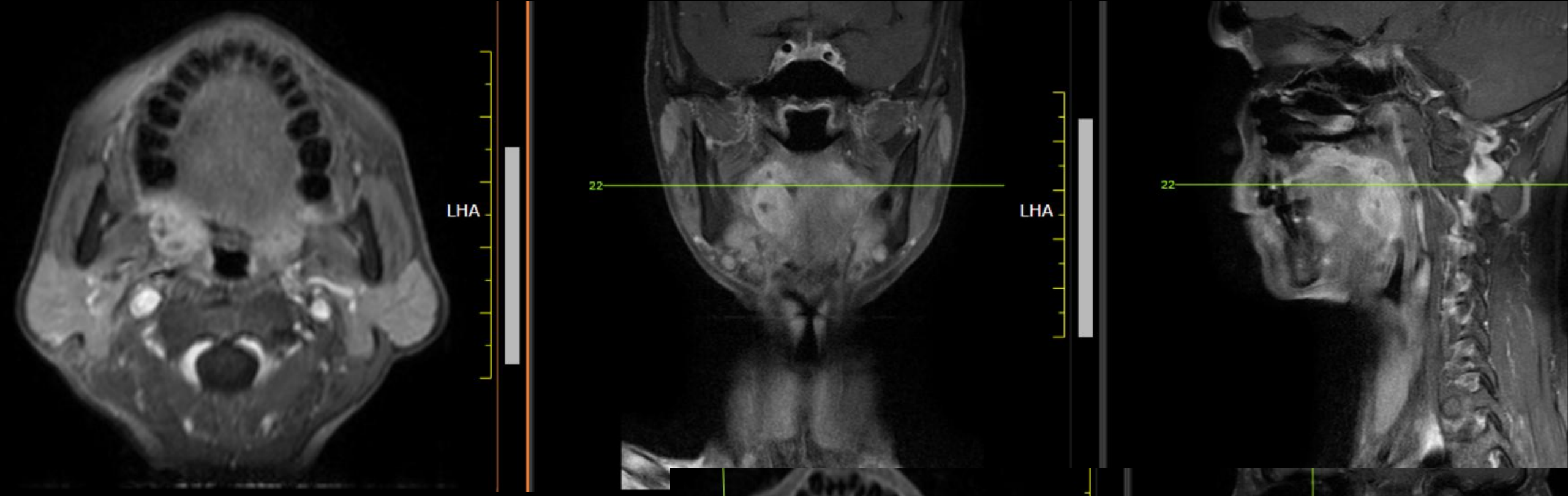




What is the staging?





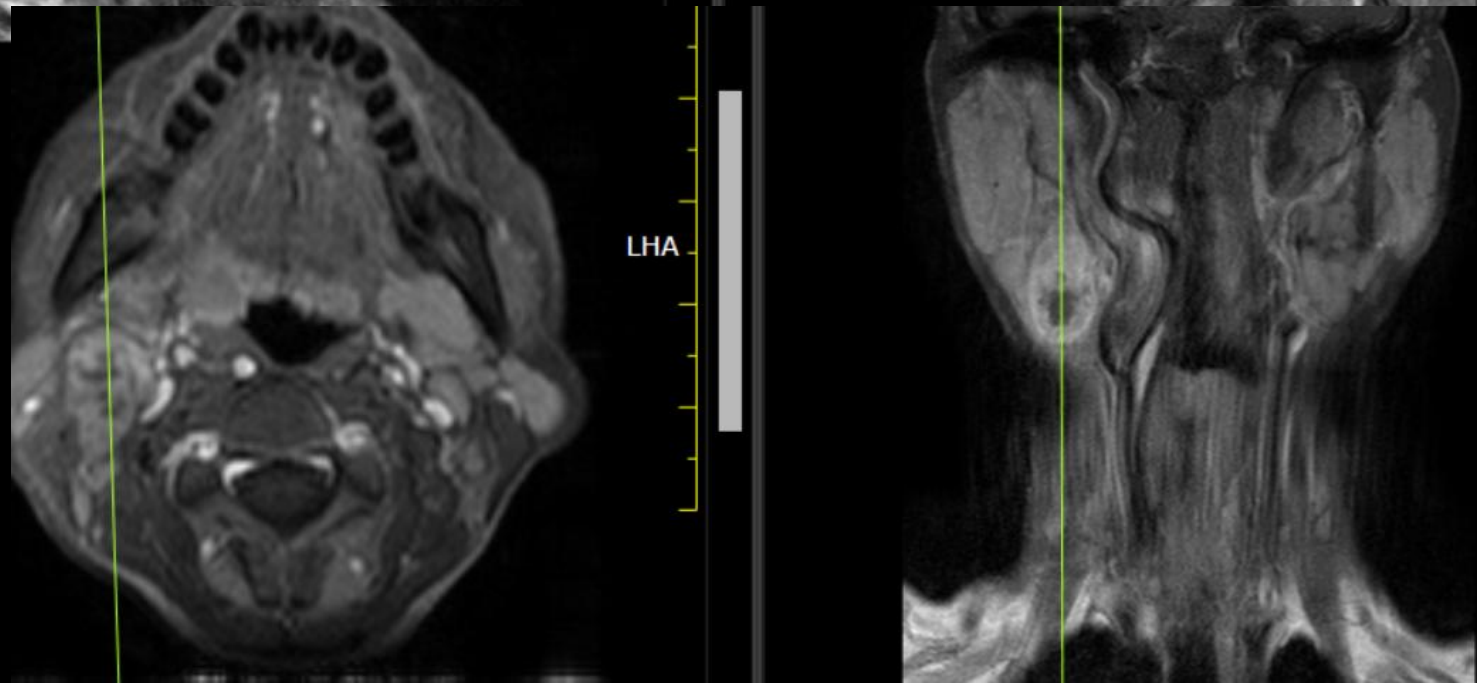


Heterogeneously enhancing lesion epicentered in right tonsil measuring 2.4 cm. The margins are circumscribed. No extension to floor of mouth.

Enlarged right cervical lymph node in level 2b measuring 2.6 cm. No signs to suggest unequivocal iENE.

T2 N1

(HPV status unknown)



Oropharynx – HPV Associated

The definitions of the T, N and M categories are new and are expected to correspond with the AJCC 9th version.

T – Primary Tumour

cT0	No evidence of primary tumour, but p16 positive (HPV-associated) cervical node(s) metastasis present
cT1	Tumour 2 cm or less in greatest dimension*
cT2	Tumour more than 2 cm but not more than 4 cm in greatest dimension
cT3	Tumour more than 4 cm in greatest dimension or extension to lingual surface of epiglottis
cT4	Tumour invades any of the following: larynx**, deep/extrinsic muscle of tongue (genioglossus, hyoglossus, palatoglossus and styloglossus), medial or lateral pterygoid muscle, hard palate, mandible, pterygoid plates (medial and/or lateral), nasopharynx, skull base, encases carotid artery

Notes

* The anatomical structure of the tonsillar crypts and lingual tonsil means that the basement membrane is incomplete and no carcinoma in situ is recognised.

** Mucosal extension to lingual surface of epiglottis from primary tumours of the base of the tongue and vallecula does not constitute invasion of the larynx.

Oropharynx – HPV Independent

The definitions of the T,N and M categories correspond with the AJCC 8th edition/version.

T – Primary Tumour

cTX	Primary tumour cannot be assessed
cT0	No evidence of primary tumour
cTis	Carcinoma in situ
cT1	Tumour 2 cm or less in greatest dimension
cT2	Tumour more than 2 cm but not more than 4 cm in greatest dimension
cT3	Tumour more than 4 cm in greatest dimension or extension to lingual surface of epiglottis
cT4a	Tumour invades any of the following: larynx,* deep/extrinsic muscle of tongue (genioglossus, hyoglossus, palatoglossus and styloglossus), medial pterygoid, hard palate, mandible
cT4b	Tumour invades any of the following: lateral pterygoid muscle, pterygoid plates, nasopharynx, skull base; or encases carotid artery

Note

* Mucosal extension to the lingual surface of epiglottis from primary tumours of the base of the tongue and vallecula does not constitute invasion of the larynx.

N – Regional Lymph Nodes

cNX Regional lymph nodes cannot be assessed
cN0 No regional lymph node metastasis
cN1 Metastasis in ipsilateral lymph node(s), all 6 cm or less in greatest dimension, without unequivocal imaging-detected and/or clinical extranodal extension
cN2 Metastasis in ipsilateral lymph node(s), all 6 cm or less in greatest dimension, with unequivocal imaging-detected and/or clinical extranodal extension*
or
Contralateral or bilateral metastasis in lymph node(s), all 6 cm or less in greatest dimension without unequivocal imaging-detected and/or clinical extranodal extension
cN3 Metastasis in lymph node(s) greater than 6 cm in greatest dimension
or
Contralateral or bilateral metastasis in lymph node(s) with unequivocal imaging-detected and/or clinical extranodal extension*

[redacted]

Oropharynx – HPV Independent and Hypopharynx

N – Regional Nodes

cNX Regional lymph nodes cannot be assessed
cN0 No regional lymph node metastasis
cN1 Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension without clinical extranodal extension
cN2 Metastasis described as:
- cN2a Metastasis in a single ipsilateral lymph node more than 3 cm but not more than 6 cm in greatest dimension without clinical extranodal extension
- cN2b Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension, without clinical extranodal extension
- cN2c Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension, without clinical extranodal extension

cN3a Metastasis in a lymph node more than 6 cm in greatest dimension without clinical extranodal extension
cN3b Metastasis in a single or multiple lymph nodes with clinical extranodal extension*

Stage Oropharynx – HPV Associated

Clinical

Stage I	T0, T1, T2	N0, N1	M0
Stage II	T0, T1, T2	N2	M0
	T3	N0, N1, N2	M0
Stage III	Any T	N3	M0
	T4	Any N	M0
Stage IV	Any T	Any N	M1

Stage HPV-Independent Oropharynx and Hypopharynx

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T3	N0	M0
	T1, T2, T3	N1	M0
Stage IVA	T1, T2, T3	N2	M0
	T4a	N0, N1, N2	M0
Stage IVB	T4b	Any N	M0
	Any T	N3	M0
Stage IVC	Any T	Any N	M1

Anatomy & Subsites:

The oropharynx includes the **base of tongue, tonsillar fossa and pillar, soft palate, and posterior pharyngeal wall** — each with distinct drainage and patterns of spread relevant for imaging-based staging.

Etiology & Molecular Profile:

Two major subsets:

- **HPV-positive squamous cell carcinoma (p16+)**, typically in younger, non-smoking males, with better prognosis.
- **HPV-negative carcinoma**, often linked to tobacco and alcohol, with aggressive locoregional behavior.

Clinical Presentation:

Presents with **neck mass (nodal metastasis), dysphagia, sore throat, referred otalgia, or trismus.** HPV-positive disease often presents with **cystic nodal metastasis** and a **small, occult primary.**

Patterns of Spread:

- **Direct extension:** to parapharyngeal space, pterygoid muscles, soft palate, or vallecula.
- **Perineural spread:** via mandibular or glossopharyngeal nerves.
- **Lymphatic spread:** primarily to **levels II–III**, sometimes retropharyngeal nodes; bilateral involvement is common.

HPV-related Imaging Clues:

- **Small, exophytic or cystic primary** with **cystic metastatic nodes**.
- Less necrosis and extracapsular spread compared to HPV-negative cancers.
- PET/CT often aids in detecting **occult primaries**.

Staging Role of Imaging:

Imaging defines **tumor extent (T), nodal burden (N), and distant spread (M)**.

MRI is crucial for **depth of invasion, muscle involvement**, and **carotid encasement**; CT and PET/CT for **nodal and distant staging**.

Treatment & Prognostic Implications:

- **HPV-positive:** Excellent response to chemoradiation, often with de-escalated protocols.
- **HPV-negative:** Poorer outcomes; may need combined surgery, RT, and systemic therapy.

Contributor

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