

Introduction

Chemotherapy for Locally Advanced Head and Neck

Case presentation

59M, previously healthy. Heavy smoker, quit a couple of months ago.

6 weeks of progressive facial pain.

Seen by local doctors, given antibiotics for a presumed sinus infection.

Purulent drainage.

Dentures stopped fitting.

Face started to go numb.

Admitted, biopsied.

Case presentation

Exam

Swollen left eye

Numb left cheek and lips

Labs

mild anemia, mild leukocytosis, BMP and LFTs fine,
really nothing interesting

Imaging

Similar case on Radiopaedia:

[https://radiopaedia.org/cases/59258/studies/66600?
lang=us](https://radiopaedia.org/cases/59258/studies/66600?lang=us)

Questions

What is induction? (What is the difference between induction and neoadjuvant therapy?)

When is induction a good idea?

When is it a bad idea?

Why are the surgeons always asking us to induce new H&N diagnoses in-house?

What regimens are available/have been studied?

How do I select a regimen for a given patient and situation?

induction chemotherapy (ICT) through the ages

1960s

MTX

1970s

MTX vs cisplatin (response rate 14-41%)

cisplatin+bleomycin

cisplatin+bleomycin+[MTX vs vinca]

ICT through the ages

1980s

5x RCT w MTX - 4/5 -ve, 1/5 +ve only for stage II oral cavity disease (and used intra-arterial MTX)

many other RCTs, no benefit (outside of limited stage oral cavity disease)

1990s

Concurrent Cisplatin-based chemoRadioTherapy (CCRT)

ICT through the ages

2000s

PF vs TPF

European study (TAX323) had RT afterward,
American Study (TAX324) had CCRT afterward.

ICT through the ages

2000s

ICT + CCRT vs CCRT alone

OS doesn't increase, toxicity does

ICT through the ages

2010s

Rise of the mods:

- modified TPF (dose reduced)

- weekly carbo-taxol followed by CCRT

- TPEX (cisplatin, docetaxel, cetuximab)

Our patient:

- docetaxel 75, cisplatin 75, q3wk x3 and reimage

ICT today

larynx preservation

CCRT not clearly better than ICT in pts who qualify for total laryngectomy but not partial - SALTORL trial is comparing ICT and CCRT head-to-head

treatment intensification

TPF+CCRT in the fittest patients?

converting borderline resectable to resectable

~30% conversion rate

selecting HPV+ OPSCC pt for RT dose reduction

significant improvement in morbidity

oligometastatic disease

talking points that came up after the talk

gem-cis ICT with CCRT, study out of China, good results (h/t Cody Lebeck Lee - also v good question about generalizability given high EBV burden in Asian populations)

QUAD shot radiotherapy, highly targeted RT (h/t Dixon Dorand)

dental procedures wrt timing of RT, may need to start ICT to bridge until dental procedures are done plus ~2wks (h/t Ronak Mistry)

Resources

[HemOnc.org entry](#)

[NCCN Guidelines](#)

[PathologyOutlines](#)

[notes](#)

Bibliography

Ferrari, Daris, Maria Grazia Ghi, Ciro Franzese, Carla Codecà, Max Gau, and Jerome Fayette. "The Slippery Role of Induction Chemotherapy in Head and Neck Cancer: Myth and Reality." *Frontiers in Oncology* 10 (January 23, 2020): 7. <https://doi.org/10.3389/fonc.2020.00007>.

Jacobs, John R., Thomas F. Pajak, Jeannie Kinzie, Muhyi Al-Sarraf, Lawrence Davis, Gerald A. Hanks, Irving Weigensberg, and Steven Leibel. "Induction Chemotherapy in Advanced Head and Neck Cancer: A Radiation Therapy Oncology Group Study." *Archives of Otolaryngology–Head & Neck Surgery* 113, no. 2 (February 1, 1987): 193–97.

Okano, Susumu, Akihiro Homma, Naomi Kiyota, Makoto Tahara, Nobuhiro Hanai, Takahiro Asakage, Kazuto Matsuura, et al. "Induction Chemotherapy in Locally Advanced Squamous Cell Carcinoma of the Head and Neck." *Japanese Journal of Clinical Oncology* 51, no. 2 (February 1, 2021): 173–79. <https://doi.org/10.1093/jjco/hyaa220>.

Vermorken, Jan B. "Where and When to Use Induction Chemotherapy in Head and Neck Squamous Cell Cancer." In *Critical Issues in Head and Neck Oncology*, edited by Jan B. Vermorken, Volker Budach, C. René Leemans, Jean-Pascal Machiels, Piero Nicolai, and Brian O’Sullivan, 155–79. Cham: Springer International Publishing, 2021. https://doi.org/10.1007/978-3-030-63234-2_11.