

Induction Chemotherapy for HNSCC

Induction Chemotherapy for Head and Neck Squamous Cell Carcinoma

Case presentation

61M, previously healthy. Heavy smoker, quit a couple of months ago.

5 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?

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

NPC

gem+cis ICT f/b CCRT: +OS benefit if EBV+ (NEJM 2019, JCO 2022)

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

oligometastatic disease

ICT for NPC

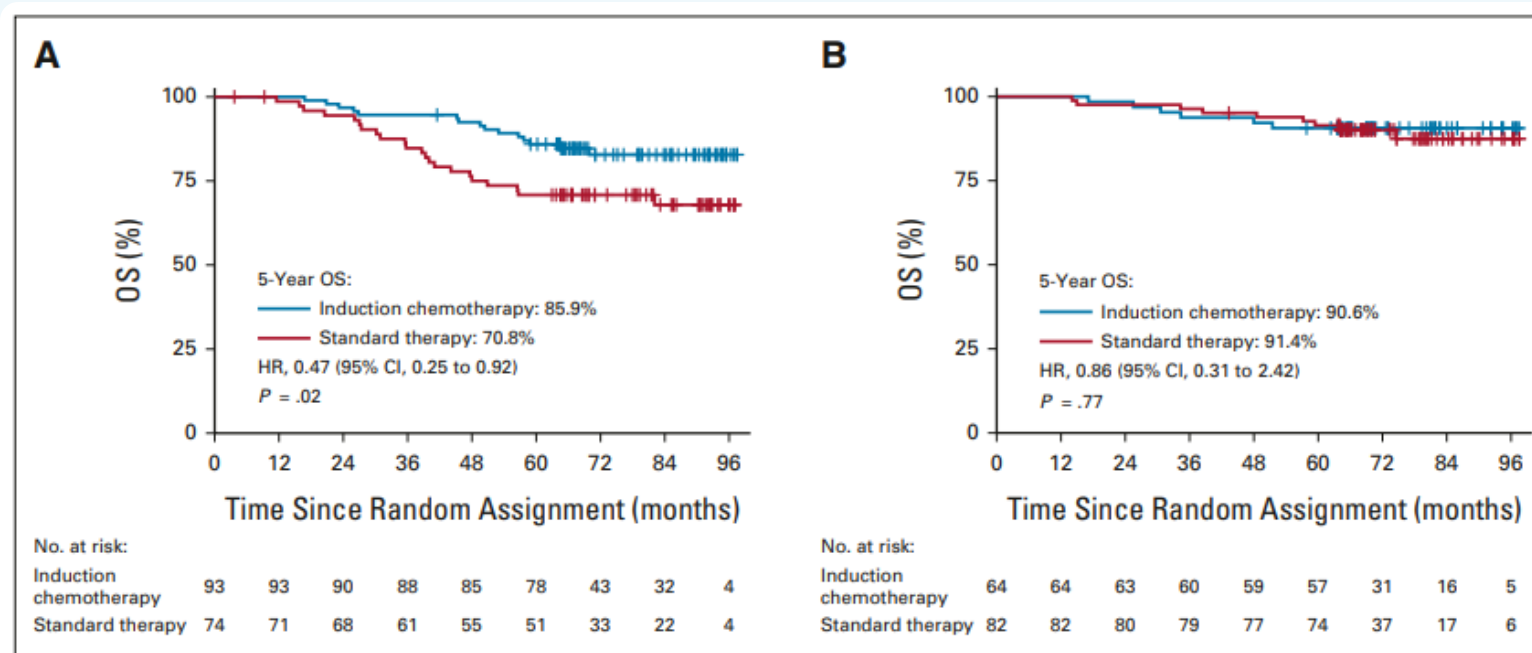


FIG 2. Kaplan-Meier survival curves for OS in the two treatment groups stratified by different pretreatment cell-free EBV DNA loads: (A) $\geq 4,000$ and (B) $< 4,000$ copies/mL. HRs and 95% CIs were calculated using an unstratified Cox proportional hazards model. Plus symbols indicate censored data. EBV, Epstein-Barr virus; HR, hazard ratio; OS, overall survival.

Induction radiotherapy?

"Quad-shot" RT: 14-15 Gy over 4 fractions

2x/day (6h separation) x 2 days

palliative

if response, can continue monthly (usually cap around Gy in the low 40s)

studies looking at quad-shot+something are ongoing
(e.g. [NCT04454489](#) - +pembro)

Resources

[HemOnc.org entry](#)

[NCCN Guidelines](#)

[PathologyOutlines](#)

[notes](#)

Bibliography

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