OncoFlash Research Updates in a Flash! (April 2022)

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1. Is radiation-induced cardiac toxicity in breast cancer patients reversible?


- Phase III randomised control trial (RCT) looking at forward versus inverse-planned intensity-modulated radiation therapy on radiation toxicity. Secondary endpoint analysis aimed to determine the relationship between myocardial perfusion, left ventricle (LV) dosimetry and grade ≥2 latent cardiac events (LCE) in 181 patients who received adjuvant radiotherapy (50Gy in 25#) for breast cancer.
- Cardiac perfusion was evaluated at 6 months, 1-, 2- and 5 years post radiotherapy, by single-photon emission computed tomography (SPECT).
- 102 patients had left-sided breast cancer and 79 had right-sided. A significant deterioration in perfusion defects occurred in patients with left-sided disease but this improved by one year.
- After a median follow-up of 127 months, LCE occurred in 17.2% of the left-sided group and 5.5% of the right-sided group.
- Perfusion changes did not correlate with LCE but left ventricular dose-volumes did.
- Limiting the LV volume receiving 5 Gy and 10 Gy to <42 cc (p = 0.024) and <38 cc (p = 0.081) respectively can reduce the risk of radiation related LCE at 10 years to <5% above baseline.

2. The TOGA study showed a 2.5 month OS benefit from the addition of Trastuzumab to chemotherapy in advanced HER2 positive oesophageal and gastro-oesophageal junctional (GOJ) adenocarcinomas. Is this reflected in the adjuvant setting?


- 203 patients with T1-2N1 or T2-3N0-2 oesophageal or GOJ adenocarcinomas received 50.4Gy in 28# with concurrent carboplatin and etoposide followed by surgery. Patients randomised to the Trastuzumab arm started this with their chemotherapy and continued for 13 cycles after surgery.
- No benefit was seen from the addition of Trastuzumab in this group. Median disease-free survival (DFS) was 19–6 months (95% CI 13.5–26.2) with chemoradiotherapy plus trastuzumab versus 14.2 months (10.5–23.0) for chemoradiotherapy alone (hazard ratio 0.99 [95% CI 0.71–1.39], log-rank p = 0.97).
- Median overall survival (OS) was 38.5 months (95% CI 26.2–70.4) in the trimodality group and 38.9 months (29.0–64.5) in the chemoradiotherapy group (HR 1.04 [95% CI 0.71–1.50], log-rank p = 0.85).
- Of note no significant additional toxicities were noted in trimodality therapy arm and 18% of patients enrolled did not undergo surgery after receiving initial systemic treatment.

3. Could the concomitant administration of angiotensin converting enzyme inhibitors (ACEi) reduce the risk of late bladder toxicity for patients receiving curative-intent radiotherapy for prostate cancer?

Use of angiotensin converting enzyme inhibitors is associated with reduced risk of late bladder toxicity following...
Previous studies have suggested that ACEi may be radioprotective in late responding tissues.

1693 prostate cancer patients who received potentially curative radiotherapy, including brachytherapy, were enrolled into two multicentre prospective observational studies - URWCI (n = 256) and REQUITE (n = 1437).

Patients were assessed prior to radiotherapy and then followed up for up to four years post, to assess for toxicity.

After adjusting for clinical factors associated with haematuria, patients taking ACEi during radiotherapy had a significantly reduced risk of developing haematuria (HR 0.51, 95% CI 0.28–0.94, p = 0.030).

The authors recommend further evaluation of their findings in a RCT.

4. Does the benefit of adjuvant Durvalumab after chemoradiotherapy in non small cell lung cancer stand the test of time?

Five-Year Survival Outcomes From the PACIFIC Trial: Durvalumab After Chemoradiotherapy in Stage III Non-Small-Cell Lung Cancer. Spigel D. R. et. al J Clin Oncol. 2022

- Patients with stage III, unresectable, non small cell lung cancer who had no disease progression after concurrent chemoradiotherapy were randomised to 12 months of Durvalumab (10mg/kg given IV every 2 weeks) or placebo.
- Results published in 2017 showed an 18 month DFS of 44% with Durvalumab versus 27% for placebo, leading to recognition as a standard of care treatment.
- 5 year data now confirms median OS of 47.5 months with Durvalumab versus 29.1 months with placebo.

The estimated 5-year OS and progression-free survival rates were 42.9% and 33.1% with Durvalumab versus 33.4% and 19.0% with placebo.

Favourable prognostic factors for OS were identified as younger age, non-squamous tumour type, World Health Organization Performance Status 0, female sex and Asian race.

Conflicts of interest

The authors declare no conflict of interest.

References


