ESTRO 2023
From Innovation to Action
12-16 May 2023 | Vienna, Austria

ESTRO 2023 Conferences Clinical Track Report

As fourth-year radiation oncology residents, having the chance to join the ESTRO congress gave us the opportunity to grow and improve our knowledge.

We would like to focus on two main topics, brain metastases and prostate cancer.

Sunday, 14 May (8:45-10:00)

ESTRO and the European Association of Neuro-oncology (EANO): changing the landscape for multidisciplinary treatment of brain metastases.

Surgery has always been a major treatment for brain metastases. Post-operative whole-brain radiotherapy (WBRT) decreases rates of local recurrence and neurological death, but it also leads to cognitive deterioration and reduced quality of life.

For this reason, several retrospective and prospective trials in which pre- and post-operative stereotactic radiotherapy (SRT) have been compared, have been performed. These trials have demonstrated that there are no differences in terms of overall survival, local control or leptomeningeal diffusion rates, but there is a lower incidence of radionecrosis in pre-operative SRT.

In conclusion, although post-operative SRT remains the standard of care, pre-operative SRT is a promising treatment. Due to advances in technology, SRT has become a feasible treatment even in patients with multiple brain metastases. Use of SRT enables the avoidance of irradiation of the whole brain and it can be integrated into systemic treatment (immunotherapy and targeted agents). Regarding this scenario, the case of a man with 15 brain metastases has been reported in clinical practice. A 70-year-old man with stage IV lung cancer underwent salvage stereotactic radiosurgery of all the brain metastases (20 minutes treatment time) during immunotherapy, and this procedure resulted in stable disease.

In conclusion, SRT has been proven to offer better palliation than WBRT for up to 10 metastases, can be considered in certain patients who have more than 10 metastases and can be combined with immunotherapy.

Monday, 15 May (16:30-17:30)

Proffered papers: prostate stereotactic body radiotherapy

Stereotactic body radiotherapy (SBRT) has been reported as an effective treatment of localised prostate cancer. The dominant intraprostatic lesion (DIL) of the tumour is known to be the main site of local recurrence after radiotherapy, which suggests that it should be treated with a focal boost.

In this regard, the prospective phase II trial of dose escalation to intraprostatic tumour nodules in localised prostate cancer (DELINEATE) enrolled patients with intermediate- or high-risk prostate cancer. These patients received 36.25Gy to the whole prostate, with a simultaneous integrated boost to the dominant nodules that was planned to provide a total dose of 45Gy in five fractions.

The objective of this trial was to investigate the toxicity associated with focal boost SBRT, which was delivered on alternate days to the DIL identified on MRI.

Toxicity was evaluated according to Radiation Therapy Oncology Group guidelines and version four of the common terminology criteria for adverse events. These showed that late rectal toxicity grade 2+ at one year was 6.2%. No grade 3 or worse rectal toxicity was reported.

Gastrointestinal (GI) and genitourinary (GU) grade 2+ toxicity rates at two years were 11.1% and 17.7%, respectively. Therefore, the trial demonstrated that the trend in urinary toxicity was comparable with the contemporary SBRT series without a boost and the incidence of GU toxicity predominated over GI toxicity.

The feasibility of this treatment was also demonstrated in the trial of the use of hypofractionated focal lesion ablative microboost in prostate cancer (the hypo-FLAME and hypo-FLAME 2.0 trials), which clarified that no GU or GI toxicity of grade ≥3 occurred independently of the treatment schedule (once or twice weekly).

The overall treatment time of focal-boost SBRT can safely be reduced from 29 days to 15 days in patients with intermediate- and high-risk prostate cancer, sparing any grade ≥ 3 GU or GI toxicity.

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