Tuesday 11 September 2018

Pelvic re-irradiation

08:30–09:15

**The basics of re-irradiation**

*Professor Bleddyn Jones, Oxford Institute of Radiation*

**Learning points**

Radiotherapy re-treatments can be clinically useful but require careful dose and treatment technique selection.

Increasing the elapsed time between two treatment courses allows recovery of radio-tolerance in the central nervous system (CNS) white matter, such as spinal cord and optic chiasm.

The recovery process appears to start at around 90 days after the first treatment is completed.

A graphical user interface is now available – it contains all available radiobiological data sets and allows estimation of re-treatment dose and fractionation.

For the use of protons in re-treatment, careful assessment of linear energy transfer (LET) and relative biological effectiveness (RBE) is also required.

**References**


Tuesday 11 September 2018

Pelvic re-irradiation (continues)

09:15–10:00

Re-irradiation in rectal cancer

Professor Harm Rutten, Department of Surgery, Catharina Ziekenhuis, Netherlands

Learning points

The role of re-irradiation in the management of locally recurrent rectal cancer.

Safety and morbidity of re-irradiation.

Combination of re-irradiation with intraoperative radotherapy.

The possible advantages of induction chemotherapy before re-irradiation.

Interval between re-irradiation and surgery.

References


Tuesday 11 September 2018

Pelvic re-irradiation (continues)

11:00–11:55

Re-irradiation using stereotactic ablative radiotherapy (SABR) in the pelvis

*Dr Louise Murray, Leeds Institute of Cancer and Pathology*

**Learning points**

Pelvic SABR re-irradiation could be a feasible option for previously irradiated patients with pelvic recurrence who otherwise have limited options.

There is limited and highly heterogeneous evidence to support pelvic SABR re-irradiation and this suggests initial promise.

There is a paucity of evidence regarding the appropriate organ at risk constraints for pelvic SABR re-irradiation.

Accounting for anatomical and positional changes between courses of radiotherapy is one of the significant challenges when considering pelvic SABR re-irradiation.

Changes in fractionation between courses of radiotherapy should be taken into account when considering pelvic SABR re-irradiation.

**References**


Tuesday 11 September 2018

Pelvic re-irradiation (continued)

15:00–15:15

Using proton therapy for retreatment in the pelvis

Dr Stephen Hahn, MD Anderson Cancer Centre, Texas, USA

Learning points

Understand the rationale for proton therapy in the re-irradiation setting.

Understand the potential indications of proton therapy in the re-irradiation setting.

Understand the current status of studies evaluating re-irradiation with proton therapy.

References


Re-irradiation of the prostate gland is possible using both high- and low- dose rate brachytherapy with a number of technical challenges that need to be considered.

Case selection is very important with patients who have slow prostate specific antigen (PSA) doubling times and long intervals between primary and salvage treatments achieving the best outcomes.

Meticulous pre-salvage restaging is critical with detailed re-imaging of the prostate and pelvis with multi-parametric magnetic resonance imaging (MRI), whole-body imaging with choline or PSMA positron emission tomography (PET) or whole-body MRI and a full mapping template biopsy essential before embarking on salvage re-treatment.

The incidence and severity of side-effects following prostate re-irradiation seems to be correlated with the volume of the prostate that receives re-treatment with whole gland salvage causing the worst toxicity and small volume focal re-treatment doing the best. Isolated re-irradiation of a seminal vesicle appears to be associated with the least toxicity.

Re-irradiation in prostate cancer is an emerging area of research with a number of clinical trials investigating its efficacy and toxicity. Results from several phase II studies are available but as yet there is no phase III evidence or studies that report more than five-year outcomes.

References


Tuesday 11 September 2018

Pelvic re-irradiation

16:40–17:40

Re-irradiation of prostate cancer using stereotactic ablative radiotherapy (SABR)

Dr Mauro Loi, Hôpitaux Universitaires Est Parisien, Paris

Learning points

Following radical radiotherapy for prostate cancer, isolated intraprostatic local failure may occur in a significant fraction of patients experiencing biochemical recurrence.

Despite initial disappointing results of salvage external beam radiotherapy, re-irradiation using stereotactic body radiotherapy showed promising results in terms of efficacy and tolerability despite technical challenges and risk of severe toxicities.

A growing body of literature and emerging morpho-metabolic techniques may provide criteria for selection of patients suitable for salvage treatment and improve the accuracy of focal therapies in previously irradiated patients.

Limited level of evidence and methodologic heterogeneity among available studies, underestimation or under-reporting of adverse events, low agreement between experts, and lack of prospective data should be addressed to resolve uncertainties in order to further develop this non-invasive alternative to current salvage options.

To better address the utility of re-SBRT, consensus agreement among expert and prospective multicentric collection of data is strongly advised to identify suitable candidates, predictors of efficacy and toxicity, and appropriate dose and target volumes in order to achieve consensus on uniform standardised trial design and develop radiobiological models.

References


