Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Methods and materials:
We retrospectively evaluated records of 120 patients treated with PBT at a single institution between December 2018 and March 2020. Patients who had radiotherapy age \( \geq 1 \) and serial lymphocyte count during treatment were included. Data on demographics, use of prophylactic co-trimoxazole and infective episodes were collected. Lymphopenia was recorded based on lymphocyte counts at nadir. Largest clinical target volume receiving lowest prescription dose (CTVlow) was obtained from radiotherapy planning images.

Results:
17 patients (14%) had grade 3 or 4 RIL. Prophylactic co-trimoxazole was commenced for 15 patients — six patients who had craniospinal irradiation had prophylactic co-trimoxazole from the start of PBT. CTVlow dose ranged from 23.4–70 Gy/CGE. Median age was 15.5 years (range 1–82).

Multivariable logistic regression suggested that risk of grade 3 or 4 lymphopenia is significantly associated with baseline lymphocyte count, age and CTVlow greater than 200cc (\( p < 0.05 \)) (model further adjusted for presence of infection).

Conclusion:
Our preliminary analysis suggests that the incidence of grade 3 or 4 RIL relates to larger target volumes treated with PBT. In patients with CTVlow of larger than 200cc, prophylactic antibiotics should be considered to minimise risk of infection. Further analyses are under way determining predictive and contributory factors for developing severe RIL.

Peer review during COVID-19: Is it possible?
Maeve Keys, William Croxford, Anna France, Cy Howells, Ed Smith, Shermaine Pan

Category: New radiotherapy techniques/implementation/QA

Purpose:
Variability in volume delineation in radiotherapy can impact patient safety and treatment outcomes. A structured peer review process for volumes and plan is vital, particularly in complex subsites and techniques. In the era of COVID-19, peer review should remain an essential step and can be done virtually. We report our retrospective series of virtual volume and plan peer review for patients treated with proton beam therapy (PBT).

Methods and materials:
We identified all patients treated at The Christie Proton Beam Centre from 27 March 2020 to 2 February 2021. We classified the outcome of the peer reviews as having major/minor or no change, as per guidance from the Royal College of Radiologists. A major change was one where the target volumes (GTV/CTV) were smaller than appropriate; dose fractionation differed to that of the prescription and any alteration in radiation plan. Minor modifications to the target volumes or organs at risk (OAR) were classified as a minor change.

Results:
We reviewed a total of 229 patients with 606 peer reviews. 293 were outline reviews, 313 were plan reviews with 433 being scheduled during radiotherapy treatment quality assurance (RTQA) meetings and 173 ad hoc. There were 114 (19%) major changes (73 outlines, 41 plans) and 106 (17%) minor (96 outlines, 10 plans). Two tumour sites (CNS and head and neck) had more major changes, likely reflecting the complexity of these tumours. Chi-squared test of CNS cases demonstrated a significant relationship between diagnosis and change at peer review (\( p < 0.045 \)).

Conclusion:
A structured peer review process, particularly for complex cases treated with particle therapy, is mandatory and achievable virtually even during challenging times.

Changing radiotherapy practice for early glottic cancer: Is it a good idea?
Emily Renninson, Catherine McDonald, Emma de Winton, Matthew Beasley, Georgina Casswell

Category: New radiotherapy techniques/implementation/QA

Purpose:
Early glottic cancer (T1/T2 N0 M0) has been effectively treated with radiotherapy for decades using a simple pair of opposed fields. The technique includes the anterior level 3 nodal level, but prophylactic nodal irradiation has not been routine in UK practice. New consensus guidelines have been published recommending (a) smaller volumes for the treatment of the primary site and (b) prophylactic lymph node irradiation for T2 tumours. The latter includes level 2 nodes and risks a significant increase in the toxicity of treatment.

Methods and materials:
We reviewed records for patients with early larynx cancer (T1N0 and T2N0) treated between 2013 and 2018 at the Bristol Cancer Institute and the Royal United Hospital, Bath, with a minimum of two years’ follow up.

Results:
87 patients (53 T1N0; 34 T2N0) were treated and followed up for a minimum of two years. All patients received 55 Gy in 20# as computed tomography (CT) planned conventional radiotherapy covering whole larynx and anterior level 3 with opposed fields. Overall recurrence rates were 13.79% (T1N0 7.55%; T2N0 23.53%). Neck nodal recurrences occurred in only one patient (1.4%) who had T1 disease (with their recurrence in level III and IV). Larynx cancer mortality was 5.75% (T1N0 3.77%; T2N0 8.82%).

Conclusion:
There was one nodal-only recurrence in our patient cohort treated with conventional radiotherapy. Although adopting reduced primary site volumes with intensity-modulated radiation therapy (IMRT) avoids anterior level 3 lymph node irradiation, which could result in more nodal-only recurrences with this technique, our current results do not support the need for prophylactic level 2 or 3 nodal irradiation for early glottic cancer (with associated increased toxicity).

Does stereotactic radiosurgery achieve long-term disease control in HER2 positive breast cancer patients with brain metastases?
Lei Wang, Eva Letalova, Panagiotis Kolious

Category: Outcomes of treatment (including chemotherapy, chemo-RT and RT)

Purpose:
There is evidence that a cohort of HER2-positive patients with unknown genetic predisposition tends to metastasise and progress intracranially without major extracranial progression. We report our centre’s real-world experience of the outcomes of stereotactic radiosurgery (SRS) for these patients.

Methods and materials:
We performed interval imaging on HER2-positive breast cancer patients to identify asymptomatic brain metastases. We retrospectively reviewed the treatment records of those who received SRS.

Results:
Our retrospective review showed that HER2-positive patients who received SRS experienced a long interval until intracranial and extracranial progression, with mean values of 16.4 and 9.6 months respectively. Many patients started new systemic therapy around the time of SRS. Five subsequently required a change in therapy after a mean interval of 14.2 months. Four have continued on the same systemic therapy, with a mean follow-up duration of 19.0 months.

Conclusion:
Despite our small cohort, we show that SRS can achieve good disease control and delay change in systemic treatment, allowing patients access to new treatments. The latest HER2-directed therapies showing benefit in phase 3 trials demonstrated 7.6 months (95% CI, 6.2 to 9.5) progression-free survival (PFS). Median PFS in the control arm was only 5.4 months (95% CI, 4.1 to 5.7) with standard treatment.

One drawback we experienced with SRS is that, in a minority of cases, standard magnetic resonance imaging (MRI) scans cannot distinguish between treatment response, radionecrosis, oedema and progression. In cases of ambiguity, further MRI imaging of transverse rectus abdominis muscle (TRAM) is required from specialist centres.