Case Study: Treatment of Fungating Bi-lateral Breast Diagnosis

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Diagnosis

- The patient in this case study was diagnosed with a fungating bi lateral breast cancer. The patient had a right mastectomy with axillary clearance and a left local excision with sentinel node biopsy

- The area we treated was the right chest wall, intra mammary nodes and supraclavicular nodes and the left breast

Plan

- Dual isocentre plan was created for the right chest wall
- Both tangential plans were planned with the same isocenter

Challenge

- We had never treated a bilateral breast with supraclavicular nodes using SGRT before
- The addition of bolus to the chest wall plan

How we overcame these challenges

- We organized a meeting with the planning physicist and therapists set-up, imaging and possible overlap were discussed.

- The patient attended for a verification appointment. The bolus was shaped and the treatment plan fields were checked. The plan had to be adjusted to ensure the treatment angles could fit and allow imaging of both tangents before treatment.

Imaging

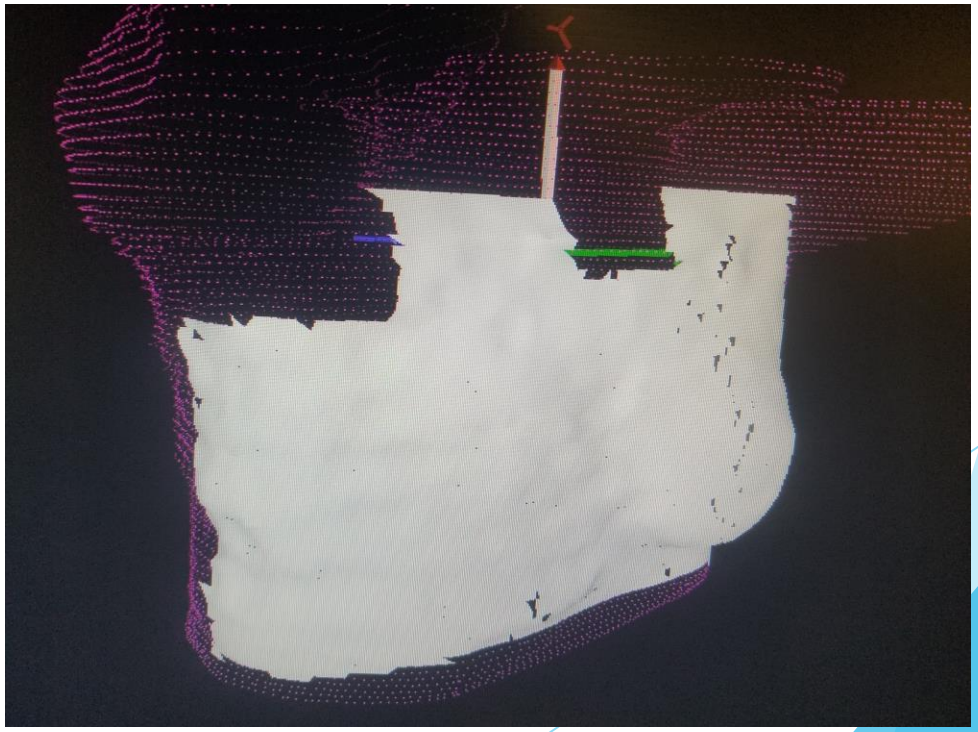
- We imaged the right chest wall as per the hospital protocol.
- A post kV image was taken to assess the clavicle and chest wall for the supraclavicular nodes. The longitudinal, lateral and rotation shifts were applied.
- A MV image was taken the right tangent and a vertical shift was applied.
- The imaging of the left tangent was discussed with members of the physics team and the patient's RO. A MV image was taken.
- If the shifts were within a 3mm tolerance the shifts were not applied as long as the heart was acceptable to its contour on zero shifts.

Workflow

- Patient ROI drawn to include both sides of chest wall
- Breast board was at central position on the treatment bed
- Patient was set up as per protocol for a 3 field breast
- Bolus added post SClav imaging
- The same ROI was used for both tangents
- Both sides were imaged before treatment

ROI with bolus

ROI with no bolus



Results

- Ensuring both sides of the chest were within tolerance was difficult even with the addition of SGRT. If there was any rotation in the patient set up this has a huge effect on our imaging, the left breast image would require large shifts which were unacceptable

- As we progressed through the patient's treatment, we did find that ensuring the rotations on the DICOM were as close to zero as possible did help with patient set up.

- Assessing both sides of the chest wall on the kV image helped us decide if there may be a need to set the patient again

Lessons Learned

- The second patient setting up much better. Less re-set ups required.
- Before starting we knew to assess both sides of the chest wall on the kV image
- The use of postural video aided in set-up
- AlignRT update – plan names on SGRT and Planning system must match.
- Capture taken at zero for left tangent plan to overcome this.

Summary

- Having a multi-disciplinary team (MDT) discussion before the beginning came for CT simulation ensured sufficient information for planning and surface references to set the patient up with minimal difficulty
- We found that removing bolus from the contour of the bolus DIBH scan on the planning system worked better than taking a DIBH scan with and without bolus
- Communication between the MDT during the planning process made it easier for therapists to create a workflow which would work efficiently on the unit
- Staff members were given education on the new workflow and given the opportunity to work as a third member of staff to feel comfortable with the setup before treating the patient
- The workflow worked timely and effectively

Thank you

Beacon Hospital