All Gain and Minimal Pain – Moving to MR-based Brachytherapy Needn't be a Nightmare

Brachytherapy used to be the Cinderella of radiotherapy, with treatments for cervix cancer being based on films or CT which didn't allow oncologists to conform the brachytherapy treatment to the patient's tumour.

But oncologists are increasingly turning to MRI-based planning to give truly conformal plans, hopefully leading to better outcomes for patients. Groups such as those participating in the EMBRACE trial believe firmly in the benefits, but it can be hard for users to see how they can go from their tried and tested clinical workflows to the high tech new ones while continuing to work within the constraints of their particular clinic.

ESTRO have offered a teaching course for five years on MRI-guided brachytherapy for cervix cancer, but the size of the course means it's hard for participants to get hands on guidance and feedback on their specific issues.

And that's where Varian steps in, with a course tailored to teach those using Varian brachytherapy equipment how to go about getting started. Run by a faculty of staff from Aarhus in Denmark and Ljubljana in Slovenia who have extensive experience both in High Dose Rate and Pulse Dose Rate treatments, and in a small class setting, the programme has been designed to cover all the areas the clinical team need to know.

When the department of Radiation Oncology of the VU University Medical Center in Amsterdam wanted to convert from 2D digital c-arm based standard plans to optimised MRI guided planning for cervix cancer, they knew where to go. Medical physicist Phil Koken, Ph.D. said, "When Varian announced the first training course held in Aarhus in March, our team of two therapists, one radiation oncologist and one physicist were quick to sign up. We really saw the benefit of going as a team since all aspects of this new procedure were highlighted in this comprehensive two-day course."

"The in-depth teaching, but especially the hands-on BrachyVision sessions with detailed feedback on contouring and optimization in treatment planning, were invaluable", said Phil. "We felt ready to get started after this course. We already negotiated with the MR-department about a fixed time-slot. We also agreed with the anesthesia-department to change the normally given general anesthesia to an epidural anesthesia because this would make a convenient transfer of patient between departments possible. We had already performed six 3D CT-only image guided brachytherapy treatments which gave us a good experience with patient transport and 3D brachytherapy treatment planning."

Their first patient was treated within two months of the course, and they are now routinely using the new technique. "Due to the well-organized and detailed training, the new procedure was introduced confidently and efficiently," he said.

"Currently we have performed nine MR-only brachytherapy cervix treatments, after which we identified further improvements in terms of logistics, software and hardware to optimize our new procedure even more. For instance, usage of the 'Clinical Protocols' functionality in

BrachyVision will significantly speed up dose evaluations. All in all, we are very satisfied with our current procedure of 3D MR-only brachytherapy for cervix treatments."

Phil Koken added, "After attending the Varian Clinical User Symposium in Berlin, we are also looking forward to the new tools that will come out in ARIA 11 for electronic treatment records for brachytherapy and workflow management. They look like they will make managing our treatment process even smoother."

Varian will be running the next course in December 2011 in Ljubljana, Slovenia. Details of the course can be obtained at www.myvarian.com