

Leeds Radiotherapy Research Dragons' Den April 2022 Meeting Summary

We are thankful to all of the patients and their carers who attended our April Dragon's Den. Their feedback on two of our unique Cancer Research UK funded projects in development allowed us to make important changes to the design and execution of these projects.

With a highly engaged group of delegates on the day, check out the summary points discussed from each of the projects below.



RadNet Leeds

First things first- what is RadNet Leeds? RadNet stands for "Radiation Research Network" and is a Cancer Research UK funded initiative that joins centres across the UK to collaborate and deliver better Radiotherapy treatments.

Our Leeds centre is a hub of activity where we are researching everything from the best long-term treatments for Prostate Cancer patients to looking at using computer software to help us to predict how a patient with anal cancer will respond to their treatment.

Spotlight on project 1:

Project Title: Second time around – can a new piece of software improve radiotherapy treatment for patients with second or recurrent cancers?

Discussion Point 1: Cancer Recurrence

Cancer can recur in exactly the same place or somewhere else. This sometimes depends on the type of cancer. E.g. in the brain it often comes back in a similar place whereas in the prostate the second cancer could be found in lymph nodes in the pelvis.



Discussion Point 2: How safe is a second course of Radiotherapy?

If we want to give more Radiotherapy in the same area how do we tell if the tissues have recovered enough to be able to cope? This is a tough question and often we have to make an educated guess. We can use computer software to tell us how much dose is delivered to a certain area but we can't calculate how the body will respond to the damage caused to cells.

Discussion Point 3: How do we measure the impact of more Radiotherapy?

What we can do is use data from other patients to make assumptions about how the body might respond but this data isn't that good. Doing extra scans gives us more info on how much damage has been done by RT.

Discussion point 4: Understanding how a computer can decide how to give more Radiotherapy

The computer software bases its decisions on information from scans of patients but many asked what about biopsies and data from Biobanks? The group wanted to understand about the origin and quality level of the evidence that produced the software.

Feedback 1: A computer is not a doctor

Using software is an elegant option in terms of data organization and mathematics that aid the decision-making but it should be made clear that the software will support the decision-making by a clinical oncologist (radiotherapy doctor).

Feedback 2: Ensuring patients understand the treatment decision pathway (If they want to).

Some patients want to know the technical details and others won't. The group suggested that a simulation model/video or animation might be helpful.

Feedback 3: Individual responses to a second course of Radiotherapy.

If this study were to be a randomised study would the decision be made by a doctor for each patient? The group questioned the fairness of some having their treatment decided by a computer when we don't currently measure (or know how to measure) which patients have more radiosensitive or radio-resistant cells. The researchers commented that as this would be a preliminary study, patients would be allowed to know which treatment group they would be in (it would be "un-blinded").

Spotlight on project 2:

Project Title: A proposal for a clinical trial combining immunotherapy (pembrolizumab + checkpoint inhibitor) with radio-chemotherapy for newly diagnosed Glioblastoma

Discussion Point 1: Study Design

This trial wants to look at the potential of using two new drugs to improve the outcome of receiving Chemotherapy and Radiotherapy to treat brain cancer (Glioblastoma). This would be a



A proposal for a phase II study combining immunotherapy (pembrolizumab + checkpoint inhibitor) with radio-chemotherapy for newly diagnosed GBM

Professor Susan Short,
The University of Leeds and St James's Hospital,
Leeds

CANCER
RESEARCH
UK

RADNET
LEEDS

second phase trial, with the first phase already showing good results with one of the drugs.

Discussion point 2: Additional Risks

The trial would include additional risks above standard treatments and this is accompanied by more visits to hospital to monitor patients.

Feedback Point 1: Pros and cons of taking part

Weighing up the risks of taking part in the trial versus the benefits is a very personal choice for all patients who will fall somewhere on a continuum. All agreed as a consensus that high quality information supporting the trial would be needed so patients can make correct, informed choices.

Feedback Point 2: Supporting those that take part

A Buddy system would be an excellent way of allowing patients to feel supported in their trial involvement. In addition patients should be provided with a clear itinerary so the full scope of the trial is understood and a good demonstration of the patient treatment pathway is included in the documentation.

Feedback Point 3: How would you feel about being randomly assigned to a treatment?

The practicalities of randomisation for the second phase of the trial were discussed. For patients with poor prognosis being randomised to a placebo would be sub-optimal as they are more likely to have a better outcome with the new drug. In a multi combination study design we could randomise to triple combinations so that all patients are receiving at least one of the drug treatments. This would improve prognosis regardless of the study arm a patient is assigned to.

Feedback Point 4: Rural communities and patient selection

A discussion was held around how to make it easier for these patients to take part in study so that those in less well-connected areas have equal opportunities for advanced treatments.

Feedback Point 5: Assessing how patients are doing in the digital world

The group talked about whether it would be practical to follow up patients using an App that would be downloaded onto a phone or tablet. In medical terms this is known as “Digitization of Quality of Life monitoring” The majority felt that this was a good solution.

A Big **THANK YOU** to everyone that took part!

Interested in more opportunities to be involved in Leeds Radiotherapy Research?

Contact K.M.Omahony@leeds.ac.uk- we would love to hear from you!