

TREE Alison EOI 2022 – ICR

Project title: Determinants of toxicity in prostate radiotherapy

Project Summary:

ICR/RMH have a long legacy of running pivotal randomised trials in prostate cancer, changing the standard of care globally. The overarching theme of this project is to accelerate knowledge in predicting and preventing toxicity after curative radiotherapy, utilising data from two of our national/international trials, PACE and PEARLS. The PACE B trial randomised 874 men to 5 fraction radiotherapy vs 20 fractions (standard). Should this trial show that 5 fractions is non-inferior oncologically this will change the gold standard treatment, but we still have much to learn about optimising dosimetry to minimise side effects over 5 fractions. The PEARLS trial is randomising 893 men with node positive prostate cancer to extended field radiotherapy vs standard of care, aiming to increase the number of men who can be cured. This project includes a pre-planned analysis of toxicity after recruitment of the first 150 patients.

The supervisory team for this project are approachable, friendly and experienced with an excellent record in supporting students through to thesis completion and beyond. The specific chapters envisaged for this project are listed below but with scope to expand/replace projects depending on the interests and abilities of the student.

- PEARLS project - Analyse the dosimetric relationships of gastrointestinal (GI), genitourinary (GU) and blood/bone marrow toxicity - Evaluate the planning and IGRT consequences of extended field radiotherapy - Investigate the role of PSMA PET-CT as an imaging biomarker in node-positive prostate cancer
- PACE B project - Determinants of 2 year GU and GI toxicity (patient-reported and clinician-reported); parameters of particular interest are correlations with dosimetric data, delivery platform, departmental and patient factors. - To explore the correlations between patient-reported and clinician reported outcomes - Analysis of later toxicity timepoints (both GU and GI) with respect to fractionation and factors listed above.

Supervisory Team:

- Dr Alison Tree, Radiotherapy and Imaging, Institute of Cancer Research and Royal Marsden NHS Foundation Trust
- Dr Nicholas van As, Institute of Cancer Research and Royal Marsden
- Dr Julia Murray, Institute of Cancer Research and Royal Marsden
- Prof. Emma Hall, Institute of Cancer Research

Clinical Specialities: Clinical Oncology