

Validating predictive models and biomarkers of radiotherapy toxicity to reduce side effects and improve quality of life in cancer survivors

Submission date 04/03/2014	Recruitment status No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 19/03/2014	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 05/03/2020	Condition category Cancer	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

<http://www.cancerresearchuk.org/about-cancer/trials/a-study-looking-at-who-is-more-likely-to-have-radiotherapy-side-effects-requite>

Study website

<http://www.requite.eu>

Contact information

Type(s)

Scientific

Contact name

Prof Catharine West

ORCID ID

<http://orcid.org/0000-0002-0839-3449>

Contact details

Radiotherapy Related Research
University of Manchester
Christie Hospital
Wilmslow Road
Manchester
United Kingdom
M20 4BX
0161 446 8275
catharine.west@manchester.ac.uk

Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers

601826

Study information

Scientific Title

Validating predictive models and biomarkers of radiotherapy toxicity to reduce side effects and improve quality of life in cancer survivors: a prospective observational cohort study

Acronym

REQUITE

Study objectives

Primary objective: To establish a prospective cohort of patients undergoing radiotherapy for breast, prostate or lung cancer following local regimens and collecting standardised radiotherapy toxicity data, non-genetic risk factor data and samples for biomarker assays for the study of determinants of radiotherapy side-effects.

Secondary objective: To establish a comprehensive centralised database and sample collection as a resource for the prospective evaluation and validation of clinical models incorporating biomarker data to identify before treatment those cancer patients who are at risk of developing long-term side effects from radiotherapy.

Ethics approval required

Old ethics approval format

Ethics approval(s)

UK ethics approval obtained from North West - GM East REC, ref: 14 NW 0035

Study design

Prospective observational cohort study

Primary study design

Observational

Secondary study design

Cohort study

Study setting(s)

Hospital

Study type(s)

Quality of life

Participant information sheet

Not available in web format, please use the contact details below to request a patient information sheet

Health condition(s) or problem(s) studied

Breast cancer, prostate cancer, lung cancer

Interventions

A pre-treatment blood sample will be collected from every patient at a single time point for downstream analyses. This sample comprises:

Sample A: a whole blood EDTA sample for DNA extraction and either

Sample B: a whole blood PAXgene sample for RNA extraction or

Sample C: a whole blood Lithium Heparin sample for the apoptosis assay.

Toxicity will be assessed and documented using REQUITE toxicity questionnaires based on the Common Terminology Criteria for Adverse Events (CTCAE) v4.0 and EORTC Quality of Life. At some sites additional questionnaires will also be used: Multiple Fatigue Inventory (MFI) and the General Practice Assessment

Questionnaire (GPAQ). Questionnaires will be completed at the following time points:

1. Baseline assessed prior to radiotherapy (all)
2. End of radiotherapy (breast and prostate); or first follow-up visit following implantation for prostate brachytherapy patients
3. 3 months from start of radiotherapy (lung)
4. 6 months from start of radiotherapy (lung)
5. 12 months from start of radiotherapy (all)
6. 24 months from start of radiotherapy (all)

The follow-up period can be extended beyond 24 months. Further follow-up will be permissible and encouraged where possible as part of routine clinical care.

Intervention Type

Other

Phase

Not Applicable

Primary outcome measure

1. Change in breast appearance at 24 months following start of radiotherapy (breast) measured by digital photograph
2. Rectal bleeding at 24 months following start of radiotherapy (prostate) measured by patient-reported outcome toxicity questionnaires
3. Dyspnea/breathlessness at 12 months following start of radiotherapy (lung) measured by patient-reported outcome toxicity questionnaires

Secondary outcome measures

1. Other toxicity endpoints including but not limited to: fibrosis, induration and vascular changes (breast); rectal incontinence, urinary toxicity and erectile dysfunction (prostate); dysphagia and

- oesophagitis (lung)
- 2. Quality of life
- 3. Maximum grade of toxicity during follow-up period

Toxicity will be assessed and documented using REQUITE toxicity questionnaires based on the CTCAE v4.0 and EORTC Quality of Life at the following time points.

1. Baseline assessed prior to radiotherapy (all)
2. End of radiotherapy (breast and prostate); or first follow-up visit following implantation for prostate brachytherapy patients
3. 3 months from start of radiotherapy (lung)
4. 6 months from start of radiotherapy (lung)
5. 12 months from start of radiotherapy (all)
6. 24 months from start of radiotherapy (all)

Overall study start date

01/04/2014

Completion date

31/03/2019

Eligibility

Key inclusion criteria

1. Patients suitable for adjuvant radiotherapy* for cancer of the breast (invasive or in situ) including breast patients receiving neo-adjuvant chemotherapy
2. Patients suitable for radical radiotherapy or brachytherapy for prostate cancer; including post-prostatectomy patients
3. Patients suitable for radical radiotherapy, sequential or concurrent chemoradiotherapy or stereotactic body radiation therapy for lung cancer
4. No other malignancy prior to treatment for the specified tumour types except basal cell or squamous cell carcinoma of the skin
5. No evidence of distant metastases
6. Patients able to provide a venous blood sample
7. Willingness and ability to comply with scheduled visits, treatment plans and available for follow-up within country of origin
8. Greater than 18 years of age; no upper age limit
9. The capacity to understand the patient information sheet and the ability to provide written informed consent

*Breast patients receiving chemotherapy should have completed their course of chemotherapy (anthracyclines) at least one month prior to radiotherapy commencing.

Participant type(s)

Patient

Age group

Adult

Lower age limit

18 Years

Sex

Both

Target number of participants

4439

Total final enrolment

4439

Key exclusion criteria

1. Patients with metastatic disease
2. Prior irradiation at the same site
3. Planned use of protons
4. Breast patients receiving concomitant chemo-radiation
5. Male breast cancer patients
6. Mastectomy patients
7. Bilateral breast cancer
8. Small cell lung cancer
9. Mental disability or patient otherwise unable to give informed consent and/or complete patient questionnaires
10. Limited life expectancy due to co-morbidity
11. Pregnant patients
12. Partial breast irradiation
13. Patients with breast implants if not removed during surgery
14. Patients with known HIV infection/infectious hepatitis

Date of first enrolment

01/04/2014

Date of final enrolment

31/03/2018

Locations**Countries of recruitment**

Belgium

England

France

Germany

Italy

Netherlands

Spain

United Kingdom

United States of America

Study participating centre
Radiotherapy Related Research
Manchester
United Kingdom
M20 4BX

Study participating centre
Centre d'imagerie de l'ICM Val d'Aurelle - Groupe CRP
Institut du Cancer
31 rue Croix Verte
Montpellier
France
34000

Study participating centre
MAASTRO clinic
Doctor Tanslaan 12
Maastricht
Netherlands
6229 ET

Study participating centre
Icahn School of Medicine at Mount Sinai
1 Gustave L. Levy Place
New York
United States of America
10029

Study participating centre
The Christie NHS Foundation Trust
Wilmslow Road
Manchester
United Kingdom
M20 4BX

Study participating centre

Fundación Publica Galega Medicina Xenomica

CHUS Edif Consultas, floor -2

Choupana s/n

Santiago de Compostela

Spain

15706

Study participating centre

Fondazione IRCCS Istituto Nazionale dei Tumori

Via Giacomo Venezian, 1

Milan

Italy

20133

Study participating centre

University Hospital Leuven

Herestraat 49

Leuven

Belgium

3000

Study participating centre

Universitair Ziekenhuis Gent

Corneel Heymanslaan 10

Ghent

Belgium

9000

Study participating centre

Universitaet Mannheim

Mannheim

Germany

68131

Study participating centre

Fundació Privada Institut d'Investigació Oncològica Vall d'Hebron

Centro Cellex

Calle Natzaret

115-117

Barcelona
Spain
08035

Study participating centre
University Hospitals of Leicester
Infirmary Square
Leicester
United Kingdom
LE1 5WW

Study participating centre
Städtisches Klinikum Karlsruhe
Moltkestraße 90
Karlsruhe
Germany
76133

Study participating centre
St. Vincentius-Kliniken gAG Karlsruhe
Steinhäuserstraße 18
Karlsruhe
Germany
76137

Study participating centre
Klinikum der Stadt Ludwigshafen GmbH
Bremsersstraße 79
Ludwigshafen am Rhein
Germany
67063

Study participating centre
Praxis Strahlentherapie
Paul-Egell-Straße 31
Speyer
Germany
67346

Study participating centre
Zentrum für Strahlentherapie
Wirthstraße 11c
Freiburg im Breisgau
Germany
79110

Study participating centre
Klinikum Darmstadt
Grafenstraße 9
Darmstadt
Germany
64283

Study participating centre
Strahlentherapie An der Stadtklinik
Balger Str. 50
Baden-Baden
Germany
76532

Study participating centre
The Institute for Cancer Research and Treatment
Strada Provinciale
Candiolo
Italy
10060

Study participating centre
Derby Hospitals NHS Foundation Trust
Uttoxeter Road
Derby
United Kingdom
DE22 3NE

Study participating centre
Nottingham University Hospitals NHS Trust
Hucknall Road
Nottingham
United Kingdom
NG5 1PB

Study participating centre
Salford Royal Foundation Trust
Stott Lane
Salford
United Kingdom
M6 8HD

Study participating centre
Birmingham NHS Foundation Trust
Birmingham
United Kingdom
B15 2TH

Study participating centre
Centre Hospitalier Régional Universitaire de Nîmes
4 Rue du Professeur Robert Debré
Nîmes
France
30029

Study participating centre
Memorial Sloan Kettering Cancer Centre
1275 York Ave
New York
United States of America
10065

Study participating centre
Queens Cancer Centre
82-68 164th Street New-Bldg
5th Floor
Jamaica
New York
United States of America
11432

Sponsor information

Organisation

University of Manchester (UK)

Sponsor details

c/o Lynne MacRae
Faculty of Biology, Medicine and Health
The University of Manchester
Room 1.21a Simon Building
Brunswick Street
Manchester
England
United Kingdom
M13 9PL
+44 161 275 5436
research-governance@manchester.ac.uk

Sponsor type

University/education

ROR

<https://ror.org/027m9bs27>

Funder(s)

Funder type

Government

Funder Name

European Union - Seventh Framework Programme for Research, Technological Development and Demonstration, Ref. 601826

Results and Publications

Publication and dissemination plan

Intention to publish date

30/09/2019

Individual participant data (IPD) sharing plan

We have an extensive resource of treatment, toxicity & PRO data as well as DVH & DICOM, genotyping & breast photos. It is accessible to all (following submission and approval of a concept form). Researchers can find out top level data on numbers of patients with particular characteristics using our 'Data Discovery' link off the website. Our CRFs are available on the

website for use by others to improve standardisation of data collection in the field. A baseline manuscript is in preparation describing the cohort in detail.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Plain English results				No	Yes
Results article	results	01/09/2019	05/03/2020	Yes	No