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Aiming to understand how the primary tumour in the prostate, and the treatment of this, can affect secondary tumours at other sites

Submission date 27/03/2025	**Recruitment status** Recruiting	[X] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [X] Record updated in last year
Registration date 04/04/2025	**Overall study status** Ongoing	
Last Edited 08/07/2026	**Condition category** Cancer	

Plain English summary of protocol

Background and study aims
Many men present with or rapidly progress to cancer that has spread, which then develops lethal therapy-resistant metastases. This study will investigate how treatment of the primary tumour impacts secondary lesions – this abscopal effect is established by comparing primary cancer treated with surgery or radiotherapy against standard-of-care therapy. We will, uniquely, investigate the effects of these treatments on the genome, transcriptome, phenotype and therapy response in primary and different metastatic sites. Our findings will enable better tailoring of therapies to men with metastatic disease, to slow or even prevent transition to therapy resistance. It will ultimately also catalyse studies on treatment resistance and developing novel treatments for advanced, therapy-resistant disease. The overall objective of this study is to fulfil the unmet need in managing metastatic prostate cancer by identifying the optimal therapies for patients to prevent therapy resistance.

Who can participate?
For this study, there are three patient groups that are being recruited:
Group 1: Patients aged 18 years and over undergoing a diagnostic biopsy for presumed high-risk prostate cancer
Group 2: Patients aged 18 years and over with a diagnosis of locally advanced and/or metastatic prostate cancer at any point in their treatment pathway who undergo standard care of prostate biopsy and/or lymph node biopsy
Group 3: Patients aged 18 years and over with metastatic prostate cancer at any timepoint in their treatment pathway who agree to have a biopsy of the metastatic site for research only

What does the study involve?
All patients will be asked to provide up to 100 ml of blood and 50 ml of urine for research at baseline and at 1-2 years follow-up (or at relapse).
For Group 1 patients:
An additional six tissue samples for research to be taken during the diagnostic biopsy
For Group 2 patients:
An additional six tissue samples for research to be taken during surgery

Research samples of lymph node biopsy tissue when lymph node dissection is carried out during surgery
For Group 3 patients:
Up to two additional biopsies of up to one metastatic site (areas where the cancer has spread outside of the prostate) within the study for research purposes only

What are the possible benefits and risks of participating?
Benefits:
There will be no direct benefit to the patient consenting to take part in the study, but their participation will help our understanding of prostate cancer so we can better inform the care of men in the future (e.g. friends, sons or grandsons).
Risks:
The extra biopsy purely for research in other areas of the body where prostate cancer has spread. The following are low risks.
Bleeding: The risk of bleeding in liver biopsies is about 2 in 100 (2%) bleeding risk when performing biopsy of superficial lymph nodes is low to almost negligible. We will not ask men who are on blood thinners to have this extra biopsy to ensure the bleeding risk is no higher than usual. We will check all men for their clotting to make sure their blood clotting is normal.
Infection: This is approximately 2 in 1000 (0.2%). We will not ask men who are immunosuppressed or on immunosuppressants to take part in this part of the study to minimise the risk of this procedure to them. All men will get prophylactic antibiotics as per standard NHS guidelines.
Pain: Usually there is mild pain which is easily controlled using paracetamol and ibuprofen for a few days. Local anaesthetic and sedation will be used to minimise this. Patients will be told to take analgesics regularly in the first 48 hours.

Where is the study run from?
Imperial College Hammersmith Hospital Campus (UK)

When is the study starting and how long is it expected to run for?
March 2023 to April 2028

Who is funding the study?
Prostate Cancer UK

Who is the main contact?
Mr Taimur Shah, aegean@imperial.ac.uk

Contact information

Type(s)
Scientific

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Additional identifiers

Integrated Research Application System (IRAS)
342331

Central Portfolio Management System (CPMS)
62381

Protocol serial number
Grant Code: MA-TIA22-005

Study information

Scientific Title
Understanding the abscopal effect in prostate cancer – primary and metastatic tumour crosstalk

Acronym
IP11 - AEGEAN

Study objectives
It is hypothesised that by characterising the mechanisms of abscopal effects, we will identify new approaches, and optimise existing ones, to treat men with currently fatal metastatic prostate cancer (PCa)

Ethics approval required

Ethics approval required

Ethics approval(s)
Approved 26/09/2024, London - Camden & Kings Cross Research Ethics Committee (2 Redman Place, Stratford, London, E20 1JQ, United Kingdom; +44 (0)207 104 8086; CamdenandKingsCross.REC@hra.nhs.uk), ref: 24/PR/1005

Primary study design
Observational

Study design
Observational; Design type: Cohort study

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Prostate cancer

Interventions
Current methodology as of 08/07/2026:
This is a prospective cohort study in which we will ask men at high risk of prostate cancer or with a diagnosis of prostate cancer to donate blood, urine and tissue samples for research.

There are three groups of men we will approach for participation. Participants will be approached via telephone by a staff member following receipt of a primary care referral to the recruiting site or in person at a routine appointment.

Group 1: Men who are undergoing prostate biopsies or biopsies of other parts of the body as part of their normal care. We will obtain consent from participants to take up to six extra samples for research once the standard care samples have been taken.
Group 2: Men who are undergoing surgery for prostate cancer. We will obtain consent from participants to use some of the excess tissue from surgery for research.
Group 3: Men who already have a diagnosis of prostate cancer. We will obtain consent from participants to carry out a biopsy purely for this research study, so we can take tissue samples of areas of cancer that have spread.

In all groups, we will ask for permission to take blood and urine for research, as well as permission to biobank samples and databank imaging information for future research. We will also ask permission for the study team to collect health information going forward to see how the men are doing clinically.

Previous methodology:
This is a prospective cohort study in which we will ask men at high risk of prostate cancer or with a diagnosis of prostate cancer to donate blood, urine and tissue samples for research.

There are three groups of men we will approach for participation. Participants will be approached via telephone by a staff member following receipt of a primary care referral to the recruiting site or in person at a routine appointment.

Group 1: Men who are undergoing prostate biopsies or biopsies of other parts of the body as part of their normal care. We will obtain consent from participants to take up to three extra samples for research once the standard care samples have been taken.
Group 2: Men who are undergoing surgery for prostate cancer. We will obtain consent from participants to use some of the excess tissue from surgery for research.
Group 3: Men who already have a diagnosis of prostate cancer. We will obtain consent from participants to carry out a biopsy purely for this research study, so we can take tissue samples of areas of cancer that have spread.

In all groups, we will ask for permission to take blood and urine for research, as well as permission to biobank samples and databank imaging information for future research. We will also ask permission for the study team to collect health information going forward to see how the men are doing clinically.

Intervention Type
Other

Primary outcome(s)
1. Characterisation of how the primary tumour impacts the metastatic niche using circulating factors, and how the metastatic niche impacts cancer outcomes through its interactions with metastatic cancer cells. This characterisation is via identification and measurement of cfDNA and miRNA in patient blood samples. Levels of both cfDNA and miRNA will be assessed in blood samples from before treatment and post-treatment (1 year), and will be related to treatment responses.
2. Characterisation of the (epi)genomic and transcriptomic profiles of primary and metastatic tumours and determine whether treating the primary tumour with radiotherapy, surgery or ablation reduces or alters ongoing seeding of metastases and manifests as a reduction in circulating tumour-derived material. This characterisation will occur using the frozen tumour sample material. The transcriptomic profile is created from gene expression data created via RNA-seq. The epigenomic profile is created from ATAC-seq. Both transcriptional and epigenomic profiles will be assessed in relation to clinical parameters and treatment outcomes. This will be assessed at the time of enrolment with the initial tissue sample.
3. An evaluation of the immune response, and its impact on local disease and metastases, that occurs following treatment of the primary tumour with radiotherapy, surgery or ablation. Immune characterisation will be based on immune signatures identified in RNA-seq data of frozen tissue, and measurement of protein identifiers of immune cells in formalin-fixed patient material via immunohistochemistry. Levels of identified immune cells will be measured for association with disease stage and response to treatment. This will be assessed in frozen tumour samples and formalin fixed tissue provided at the time of enrolment.

Key secondary outcome(s)
Identification and adaptation of appropriate organoid models in which to functionally test and validate the above findings concerning the treatment of primary and metastatic tumours with systemic agents and radiotherapy

Completion date
04/04/2028

Eligibility

Key inclusion criteria

1. Age 18 years or above (no upper limit)
2. Patients with a prostate (either cis-male gender or trans-female gender)
3. Undergoing diagnostic systematic biopsy +/- targeted biopsy for presumed high-risk prostate cancer on diagnostic imaging (MRI or ultrasound)
4. Patients with an existing histological diagnosis of locally advanced and/or metastatic prostate cancer at any point in their treatment pathway

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
Male

Total final enrolment
0

Key exclusion criteria
1. Patients unable to understand the Patient Information Sheet and unable to provide Informed Consent
2. For group 3, we will exclude men who have a diagnosis of immunosuppression or are on drugs that cause immunosuppression. We will also exclude men who have a higher than normal risk of bleeding such as those with bleeding disorders or drugs that thin the blood.

Date of first enrolment
14/04/2025

Date of final enrolment
04/04/2027

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Imperial College Healthcare NHS Trust
The Bays
St Marys Hospital
South Wharf Road

London
England
W2 1BL

Sponsor information

Organisation
Imperial College London

ROR
https://ror.org/041kmwe10

Funder(s)

Funder type
Charity

Funder Name
Prostate Cancer UK

Alternative Name(s)
Prostate Cancer, Prostate Action, ProstateUK, prostatecanceruk

Funding Body Type
Private sector organisation

Funding Body Subtype
Other non-profit organizations

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Data sharing statement to be made available at a later date