

RADIOLOGISTS AT THE CENTRE OF A MULTIDISCIPLINARY RESEARCH TEAM – A POETIC SOLUTION

Robin Wilson on behalf of the POETIC Trial Management Group#



Trial of Perioperative Endocrine Therapy - Individualising Care

BACKGROUND

- The focus of the NIHR's breast cancer research portfolio is shifting from the adjuvant to the perioperative setting. Perioperative Endocrine Treatment – Individualising Care (POETIC) is the largest study within this emerging portfolio (CRUK/07/015).
 - The aim is to recruit 4000 patients in the UK over 3 to 4 years and to succeed the trial requires active participation by radiologists for imaging assessment and tissue sampling.
- The following important hypotheses require testing and validation:
- Experimental evidence¹ suggests endocrine therapy during the peri-operative period may improve disease outcome.
 - The neoadjuvant MPACT trial² suggested that Ki67 levels after two weeks of endocrine therapy predicts for long-term outcome.
 - Profound changes in gene expression have been observed in ER positive breast cancer following treatment with aromatase Inhibitors

AIMS

- To determine after 2 weeks perioperative Aromatase Inhibitor (AI) whether:
 - clinical outcome is improved.
 - the change in Ki67 level predicts for relapse-free survival more effectively than the baseline value.
 - the gene expression profile provides more accurate prognostic and predictive information than the pre-treatment profile.

Primary biological endpoints are innovative in a major national initiative and other similar studies will follow.

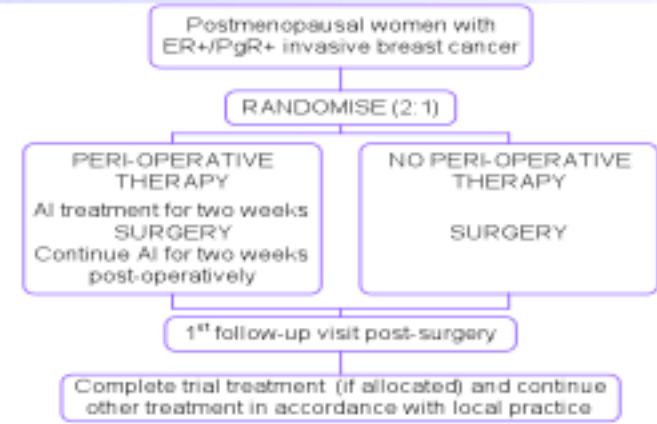
ELIGIBILITY

- Post menopausal women – with early breast cancer
- ER/PgR positive
- Palpable tumour or ultrasound size >1.5cm
- No evidence of metastatic spread
- Standard adjuvant endocrine therapy indicated
- Surgery planned

CHOOSING OPTIONS WITHIN POETIC

Centres may choose to be a **biological centre** or **non-biological centre**. **Biological centres** may enter patients via Pathway A or B; the choice will depend on local practice, and the timing of presentation for individual patients. The requirements for the collection of tumour tissue for each pathway are shown below.

TRIAL DESIGN



The CRUCIAL ROLE of RADIOLOGY in POETIC

- Ultrasound guided core biopsy is essential for the collection of the baseline tissue required to satisfy the biological endpoints.
- Patients generally welcome the opportunity to contribute to research. On the whole they are happy that their tissue is of use to researchers.
- Gaining consent to take tissue for research at the same time as diagnostic tissue sampling is straightforward once workable procedures are in place. Experience to date has shown that taking additional core samples for research can be easily integrated into the radiological assessment process.
- Handling and shipping samples is made easy with the study kits that are provided.
- Research tissue samples will be part of a tissue bank that will be used for future other breast cancer research.
- The importance of radiological expertise in breast cancer research is increasing and radiologists should embrace this opportunity to contribute through imaging assessment and tissue sampling to assess response.



Perioperative ENDOCRINE TREATMENT

- Centres choose letrozole 2.5mg or anastrozole 1mg daily.
- Treatment duration:
 - 2 weeks pre-operatively and
 - 2 weeks immediately post-operatively

Biological centres

PATHWAY A

*Tissue for research collected at the same time taking diagnostic biopsy.

One biopsy core in RNA-later & one paraffin embedded

At diagnosis
Immediately before entering POETIC

One biopsy core in RNA-later & one in paraffin embedded

At surgery

PATHWAY B

ER positive breast cancer confirmed

One biopsy core in RNA-later & one paraffin embedded

One biopsy core in RNA-later & one paraffin embedded

Non-Biological centres

Ensure paraffin embedded tissue from diagnosis available for POETIC

One paraffin block from diagnosis or
Ten 3-4µm sections & four 10µm sections ± H&E
or
Two 3-4µm sections ± H&E

One paraffin block or
Ten 3-4µm sections & four 10µm sections ± H&E
or
Two 3-4µm sections ± H&E

*Ethics approved patient information & consent form provided for centres that do not already have arrangements in place

POETIC is part of the National Institute for Health Research (NIHR) portfolio as a high priority trial

Co-sponsors: The Institute of Cancer Research (ICR) and the Royal Marsden NHS Foundation Trust

Surgical Lead: Professor John Robertson, University of Nottingham

ICR-CTSU Scientific Lead: Professor Judith Bliss, ICR-CTSU, Sutton

POETIC Trial Management Group: Roger Khan, Judith Bliss, Nigel Dundas, Robert Carpenter, John Oliver, Henry Gibson, Mich Oswald, Nigel Goss, Roz Greenhalgh, Gine Hobbins, Amanda Johnson, Lindsay Johnson, Lucy Kaur, Mark Kerr, Fara Nazim, Elizabeth Nalin, Robert Nicholson, Simon Pan, Anne Razaee, John Richardson, Mark Sibber, Ian Smith, Rosemary Walker, Roger Wilkins, Maggie Wilson, Rob Wilson, Les Wilson

Chief Investigator: Professor Ian Smith, Royal Marsden NHS Foundation Trust, London

Biological Studies Lead: Professor Mitch Dowsett, RMH, London

Trial Management: Laura Robison, ICR-CTSU, Sutton

For further information on contact: Laura Robison, ICR-CTSU, The Institute of Cancer Research, Cotswold Road, Sutton, Surrey, Surrey, UK. Tel: 02037224077. Email: lpoetic-ctr@icr.ac.uk

