

Estrogen Receptor Beta (ER- β) as a coadjuvant target of neoadjuvant endocrine therapy

Submission date 26/01/2013	Recruitment status No longer recruiting	☐ Prospectively registered ☐ Protocol
Registration date 06/02/2013	Overall study status Completed	☐ Statistical analysis plan ☒ Results
Last Edited 27/06/2014	Condition category Cancer	☐ Individual participant data

Plain English summary of protocol

Background and study aims

The role of estrogen receptor beta (ER- β) in human breast cancer remains unclear. There is no consensus regarding the clinical utility of an ER- β assay. Some studies have suggested that ER- β may oppose the actions of estrogen receptor alpha (ER- α), and clinical evidence has indicated that the loss of ER- β expression is associated with a poor prognosis and resistance to endocrine therapy. The objective of the present study is to determine the role of ER- β and the ER- α /ER- β ratio in predicting the response to endocrine therapy and whether different regimens have any effect on ER- α and ER- β expression levels.

Who can participate?

Postmenopausal women with histologically confirmed invasive breast cancer without previous treatment for the disease (surgery, radio or chemotherapy).

What does the study involve?

Patients with operable breast cancers will be randomly allocated to one of three groups: receive 26 days of treatment with anastrozole (1 mg/day), tamoxifen (20 mg/day) or placebo. The pre- and post-hormone therapy samples will be placed in tissue microarray blocks and submitted to immunohistochemical assay. Biomarker statuses (ER- β , ER- α and Ki67) will be obtained by comparing each immunohistochemical evaluation of the pre- and post-surgery samples using the semi-quantitative Allred's method.

What are the possible benefits and risks of participating?

There will be no immediate direct benefit to those taking part. A treatment period of 26 days was chosen for this study because this is the average time needed to complete routine preoperative testing in most Brazilian institutions, justifying the use of placebo without negative consequences to the patients. In addition, the period of drug exposure is too short to observe the most important side effects of treatment in the anastrozole and tamoxifen groups.

Where is the study run from?

Two centres are taking part in this study. Patients will be recruited at Pérola Byington Hospital, Sao Paulo / Brazil and Federal University of Sao Paulo Hospital, Sao Paulo / Brazil.

When is the study starting and how long is it expected to run for?

The study started in October 2010 and will run for 36 months or until the required number of 90 patients have been recruited and evaluated.

Who is funding the study?

Senology Discipline, Department of Gynecology, Federal University of Sao Paulo UNIFESP (Brazil)

Who is the main contact?

Marcelo Madeira

marcemadeira@gmail.com

Contact information

Type(s)

Scientific

Contact name

Mr Marcelo Madeira

Contact details

R. Sampaio Viana, 580

Sao Paulo

Brazil

04004-002

Additional identifiers

Study information

Scientific Title

Estrogen Receptor Beta (ER- β) as a predictor of endocrine therapy responsiveness A randomised neoadjuvant trial comparison between Anastrozole and Tamoxifen for the treatment of postmenopausal breast cancer

Study objectives

Several studies have suggested that the expression of ER- β independently predicts a better disease-free survival in breast cancer patients. Our hypothesis is that the measurement of ER- β or the ratio of ER- α /ER- β expression in breast cancer patients may help predict tamoxifen and anastrozole responsiveness in the neoadjuvant therapy.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Human Investigation Committees of Federal University of São Paulo (UNIFESP) and Pérola Byington Hospital, 30-Jul-2010, ref: CEP0894/10 (Brazil)

Primary study design

Interventional

Study design

Randomised prospective controlled double-blind study

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Breast Cancer

Interventions

Patients with operable breast cancers will receive orally treatment with anastrozole (1 mg/day), tamoxifen (20 mg/day) or placebo during 26 days.

Intervention Type

Drug

Phase

Not Specified

Drug/device/biological/vaccine name(s)

Anastrozole, tamoxifen

Primary outcome(s)

To determine the role of ER- β in predicting the response to breast cancer therapy with anastrozole and tamoxifen we will observe the expression of Ki67 (cell proliferation marker) in tumor biopsy samples taken before and after treatment (26 days) of ER- β -positive and ER- β -negative breast cancer patients.

Key secondary outcome(s)

The ER- α /ER- β expression ratio predicting the response to breast cancer endocrine therapy and whether different regimens of treatment have any effect on ER- α and ER- β expression levels.

Completion date

29/10/2013

Eligibility**Key inclusion criteria**

Histologically confirmed invasive breast cancer in women who were postmenopausal, which is defined as no menstruation periods over the last 12 months and/or an FSH level within the postmenopausal range.

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Sex

Female

Key exclusion criteria

1. The presence of endocrine disease, metastatic disease, inflammatory breast cancer (T4d)
2. History of thromboembolism
3. Use of hormone replacement therapy (HRT) or previous treatment for breast cancer (surgery, radio or chemotherapy). Patients who do not comply with the prescribed medication regimen or postpone surgery are also excluded from the study. Patients who had previously taken HRT may be included if they have stopped hormonal treatment at least six months prior to trial randomisation.

Date of first enrolment

29/10/2010

Date of final enrolment

29/10/2013

Locations**Countries of recruitment**

Brazil

Study participating centre

R. Sampaio Viana, 580

Sao Paulo

Brazil

04004-002

Sponsor information**Organisation**

Federal University of Sao Paulo (Brazil)

ROR

<https://ror.org/02k5swt12>

Funder(s)**Funder type**

University/education

Funder Name

Federal University of Sao Paulo (UNIFESP) - Senology Discipline, Department of Gynecology (Brazil)

Results and Publications

Individual participant data (IPD) sharing plan**IPD sharing plan summary**

Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	18/09/2013		Yes	No