Background: The Eurocare-4 (2000–2002) period analysis documents a mean European age-adjusted 5-year relative breast cancer survival of 79% with higher individual figures for Finland (85.7%), Norway (84.1%) and Sweden (86.3%) (*Lancet Oncol 2007;8:784–96*). The corresponding mean figure for England was 77.8%. We now compare these predicted survival estimates with actual age-adjusted relative 5-year breast cancer overall survival for women diagnosed with invasive breast cancer in the East of England from 2000 to 2002.

Method: The East of England covers a population of 5.5 million people. Five-year age-adjusted relative breast cancer survival was calculated overall, and in specific age groups, for 10,787 women with invasive breast cancer diagnosed from 2000 to 2002 in the East of England for comparison with the results from the Eurocare-4 study.

Results:

Age-adjusted 5-year relative breast cancer survival in East of England for period 2000–2002.

Age group	Number of patients	Relative survival	95% CI
45–54	2563	87.5%	86.1–88.9
55–64	2945	89.5%	88.1–90.9
65–74	2335	83.9%	81.8–86.1
75+	2944	73.3%	70.1–76.4
All women	10,787	82.5%	81.4–83.6

Conclusion: These data confirm breast cancer survival rates for East of England that are close to European best figures for women aged 45–64. The mean survival of 82.5% for all women however is being reduced by worse survival in women aged 65+ and a strategy that ensures optimal breast cancer treatment for women in this age group should allow the mean survival to improve even further.

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O-53 A STUDY OF THE VALUE OF COMPREHENSIVE GERIATRIC ASSESSMENT (CGA) IN OLDER WOMEN WITH PRIMARY BREAST CANCER – PRELIMINARY RESULTS

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Background: Despite being an important health issue, breast cancer in older women is under-researched. This study aimed to identify how CGA may be linked to treatment decision making.

Methods: Women ⩾70 years with newly diagnosed primary breast cancer in Nottingham were invited to take part. Decision for a particular treatment was made between the clinical team and the patient, and this was not part of the study. Each patient then completed an established CGA tool – a multi-dimensional questionnaire incorporating information on demographics, mood, social activities and support, medication, functional status, cognition, nutritional state and co-morbidities.

The study is ongoing. At this preliminary analysis, 20 patients (aged 70–87) were recruited from different treatment groups (mastectomy $n = 8$, breast conserving surgery, $n = 4$, primary endocrine therapy (PET) $n = 7$, primary radiotherapy $n = 1$).

Results: Compared to patients undergoing surgery, the PET group was found to be older (median age 85 versus 76). Patients on PET also reported having lower median physical functioning (7.5 versus 11.5) and social support (66.67 versus 89.95) scores, mood levels (67.65 versus 85.29) and more co-morbidities (median 4 versus 2).

Conclusions: Using a CGA tool may be beneficial in guiding treatment decision. This ongoing study may establish a tool specific to the context of older women with primary breast cancer. This could then become part of routine consultation and may help identify patients who would require input of a geriatrician. When combined with quality of life measures and biological information, there is potential to provide a holistic approach to this under-served population.

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O-54 INVOLVEMENT OF MiR-34A IN RESISTANCE OF BREAST CANCER CELLS TO DOCETAXEL

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Introduction: Understanding the mechanisms of drug resistance is important to improve and deliver effective therapy. MicroRNAs (miRNA) are small RNA molecules that regulate gene expression, hence we hypothesised that gene silencing, by altered miRNA expression, causes docetaxel resistance.

Methods: Quantitative PCR-based miRNA arrays were used to examine the role of miRNAs in acquired resistance of breast cancer cells (MCF-7 and MDA-MB-231) to docetaxel. Quantitative PCR and western analysis were used to measure target gene mRNA and protein expression, respectively. MicroRNA expression was modulated and docetaxel response was measured by cell viability assay.

Results: We found 299 and 226 miRNAs altered in MCF-7 and MDA-MB-231 docetaxel-resistant cells, respectively. Only miRNA alterations that reached statistical significance, which targeted experimentally validated genes involved in cell cycle, apoptosis or drug resistance, were selected for further investigation. Docetaxel resistance was associated with increased expression of miR-34a and miR-141 and decreased expression of miR-7, miR-16, miR-30a, miR-125a-5p, miR-126 and miR-429. Computational target prediction revealed 11 candidate genes targeted by these miRNAs. Quantitative PCR and western analysis confirmed decreased expression of only two genes, BCL2 and cyclinD1, in docetaxel-resistant cells, which are both targeted by miR-34a. Inhibition of miR-34a enhanced response to docetaxel in MCF-7 docetaxel-resistant cells whereas overexpression of miR-34a conferred resistance in MCF-7 docetaxel-sensitive cells. Modulation of miR-34a expression was correlated with expected BCL2 and cyclinD1 protein expression changes.