Association between androgen receptor expression, Ki-67 and the 21-gene recurrence score in non-metastatic, lymph node-negative, estrogen receptor-positive and HER2-negative breast cancer

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BACKGROUND
The mechanisms underlying the favourable prognosis of androgen receptor (AR) expression in breast cancer are unknown.

METHODS
The associations between the 21-gene recurrence score (RS), AR, grade, mitotic score, Ki-67 and estrogen receptor (ER) and progesterone receptor (PgR) expression were explored in sequential women with lymph node-negative, ER-positive and HER2-negative breast cancer. Statistical significance of this exploratory study was defined as p<0.10.

RESULTS
Analysis comprised 70 women. Most tumours had high AR expression (97% had scores >3). Median RS was 15 (range 1-53). AR expression showed a minimally significant positive correlation with ER (R=0.37), but no correlation with Ki-67 (R=-0.18). In univariable analysis, AR (p=0.01), ER (p<0.001) and PgR (p<0.001) had significant negative associations with RS. Ki-67 (p=0.16), grade (p=0.40) and mitotic score (p=0.23) showed no association with RS. Multivariable analysis showed similar associations.

CONCLUSIONS
AR is associated with lower RS, but not with Ki-67.