

Background

- Predictive factors that are assessed to help select targeted treatment options:
 - estrogen receptor (ER)
 - progesterone receptor (PR)
 - HER-2 receptor (HER 2)
- These predictive factors are generally assessed on the primary tumour, not the metastatic lesion
- Is this a safe assumption?
 - Recent small studies have suggested that relapsed/metastatic lesions may have a change in the hormone receptor and/or HER 2 receptor status when compared with the primary tumour

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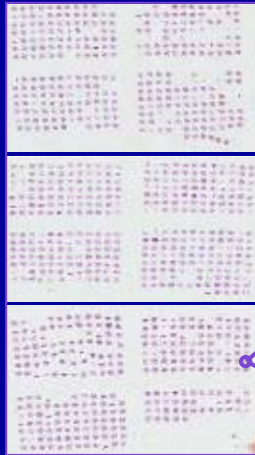
Methods

- Using the BCCA BCOU database, we identified all pts with biopsy proven relapse (local, regional or distant)
 - baseline demographics (including adjuvant treatment) were obtained
 - contralateral new breast primaries were excluded
- These pts were linked to a current large series of 1⁰ breast cancers already in a TMA
- Chart review to identify those pts who had biopsy material suitable for collection and to obtain surgical path #
- Tissue blocks of the relapsed tumours were requested, and a duplicate TMA was created
 - IHC was performed for ER, PR, and HER 2

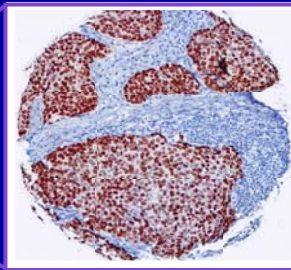
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British Columbia Breast Cancer TMA



- CBCRA grant funded
- 4,444 cases referred to ER lab from 1986-1992
- Fully annotated clinical and pathologic data
- Assess for prognostic and predictive markers



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Results

- 160 blocks were scored
 - 115 (72%) had no change in ER/PR or HER2 status
 - 45 (28%) had changes in ER/PR or HER2
 - 13/45 were new 1^o or relapses in ipsilateral breast
 - **31/45 (19.4%) had receptor status changes in the context of regional or distant relapse**
 - 7 (distant relapse)
 - 24 (locoregional relapse)

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Conclusions

- This is one of the largest known studies assessing for changes in molecular phenotype b/w the 1^o and relapsed breast cancer lesion
- 19% of relapsed tumours had changes in ER/PR or HER 2 receptor status when compared with the original tumour
- These changes have significant implications for selection of treatment options of relapsed breast cancer
- These findings illustrate the need for re-biopsy at the time of relapse/recurrence to determine if there has been change in hormone receptor and/or HER 2 status

