a variety of chemokines which potentially mediate the reciprocal interactions between breast stromal and epithelial populations. The specific chemokines involved remain to be defined.
Aim: To identify factors secreted by tumour stromal cells and elucidate their potential role within the tumour microenvironment.
Methods: Breast tumour specimens harvested at surgery were separated into epithelial and stromal fractions for culture. Chemokines secreted by stromal populations were detected using Chemiarray™, ELISA and RQ-PCR. Transwell® inserts were used to assess migration of breast cancer epithelial cells (MDA-MB-231 and MCF-7) in response to primary stromal cells.
Results: Tumour stromal cells were shown to secrete a range of chemokines including GRO, IL-6, IL-8 and MCP-1. The level of MCP-1 secreted by tumour populations was significantly higher (mean 951±158 pg/ml) compared to normal stromal cells (mean 366±76 pg/ml). RQ-PCR analysis revealed increased MCP-1 gene expression in tumour relative to normal stromal cells ($p < 0.05$). There were significant increases in migration of both MDA-MB-231 and MCF-7 cells in response to factors secreted by tumour, but not normal stromal cells [range 2–10 fold increase]. Significant inhibition (20–70% reduction) of migration was observed in the presence of monoclonal antibodies to MCP-1.
Conclusion: Stromal cell derived MCP-1 stimulates epithelial cell migration and may play an important role in the breast tumour microenvironment. Increased understanding of the role played by stromal cells in breast cancer progression, may lead to the identification of novel therapeutic targets.

O-61 Reading the prognosis of the individual with breast cancer

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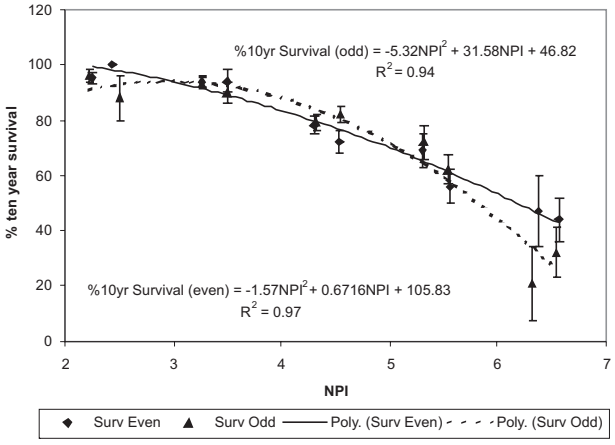
The Nottingham Prognostic Index (NPI) is well accepted and validated. The NPI predicts survival for 6 groups.
Aim: To obtain better survival estimates for the individual than is provided by placement in an NPI group.
Method & Results: Consecutive primary operable breast cancers treated at Nottingham City Hospital 1990–1999. Ten year % survivals plotted for 10 ranges of NPI from 2.0 to 6.9. There is an excellent inverse correlation between median NPI value for each range and survival at 10 years. Rank order is preserved with significant difference between neighbouring ranges.



To enable estimation of survival for all individual values of NPI, a curve fitting technique was applied to these results and gave the formula applied to the individual's NPI score: 10 year survival for the individual = $-3.0079 \times NPI^2 + 12.30 \times NPI + 83.84$. This gave an r^2 of 0.98.
Validity was demonstrated by dividing into odds and evens by case number, with good concordance shown between the two curves produced (Fig).
Example of improved prediction: Two patients with NPI's differing little, of 5.4 and 5.5 lie in different NPI groups (Moderate II and Poor); estimated breast cancer specific 10 year survivals of these groups are 75% and 53% respectively, a 22% difference. Calculations for the individuals from the formula for the individual NPI values gives their survivals as 63% and 60% respectively, only a 3% difference.

O-62 External validation in ONCOPOOL of updated survival according to the Nottingham Prognostic Index (NPI)

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From Nottingham City Hospital (NCH) data the NPI was described and validated in the early 1980s. Case survival has markedly improved and new survival figures for cancers treated in the 1990s NPI groups are presented in this meeting (n = 2235).
ONCOPOOL is a dataset of primary breast cancer assembled as an EC FP5 project in 12 European Breast Units. 6711 cases treated in the 1990s were available for this analysis.

	% Selected		10 Year BCS	
NPI Group	NCH	ONCOPOOL	NCH	ONCOPOOL
EPG	14	19	96±2	94±2
GPG	21	26	93±2	91±2
MPG I	28	27	81±4	84±2
MPG II	22	18	74±4	76±4
PPG	10	9	55±8	53±6
VPG	4	5	38±12	40±8
Overall			77	81±0.4

There are no significant differences in survival in any NPI group between the NCH set and ONCOPOOL nor do overall distributions to prognostic groups differ significantly.
ONCOPOOL gives an excellent intercentre and international validation of the new survival figures according to NPI of women treated to modern protocols.

O-63 Survival in East Anglia according to the Nottingham Prognostic Index

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The E Anglia (EA) (n = 6372), Nottingham City Hospital (N) (n = 2238) and Cambridge Breast Unit data (C) (n = 865) datasets are of women with primary invasive breast cancer aged $\leq$ 70, diam. <5 cm, treated 1998–2003 (EA & C) and 1990–99 (N). The EA set includes the C set.
Analysis according to Nottingham Prognostic Index (NPI) compares the figures in the three datasets. Figures shown in the table are actuarial survival for all causes of death (OS) at 84 months survival.