also analysed exosomes from breast cancer lines which were stably transfected to overexpress CD82. These were shown to express higher levels of MHC class I, which supports previous studies showing an association between CD82 and MHC class I.

These findings show that exosomal proteins can be modified by altering cell culture conditions. This may allow optimisation of exosome targeting to antigen presenting cells, in order to stimulate a cytotoxic T cell response against breast cancer *in vivo*.

O-90. Is mammographic spiculation an independent good prognostic factor in screen detected invasive breast cancer?

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Objective: The aim of this study was to look at the prognostic significance of pathologic and radiologic factors for screen detected invasive breast cancers of any size.

Material and Methods: The patient group was a consecutive series of 470 screen detected invasive breast cancers diagnosed between 1988 and 1998. Data regarding tumour type, grade, maximum invasive diameter, lymph node status and the presence or absence of vascular invasion was recorded as were the mammographic features of the lesion. Survival was ascertained from hospital records and cancer registry. Differences in survival were assessed using Kaplan-Meier survival curves with log-rank test for difference. The significance of any correlations was assessed using Chi square and Chi-square for trend. Multivariate analysis used a Cox proportional hazards model.

Results: At univariate analysis, large invasive size, the presence of definite vascular invasion, high histological grade and nodal involvement were associated with poorer breast cancer specific survival. Mammographic spiculation (the presence of either a spiculate mass or distortion) was associated with more prolonged breast cancer specific survival. The presence or absence of mammographic comedo calcification did not influence breast cancer specific survival. In a Cox multivariate analysis which included those factors significant in univariate analysis, size, grade, nodal stage and mammographic spiculation maintained their prognostic significance.

Conclusion: Mammographic spiculation is an independent good prognostic factor for screen detected invasive breast cancer. The mechanism of how mammographic spiculation confers a beneficial prognostic effect is not clear.

O-91. Nipple biopsies in Paget's disease of the breast: an 8 year retrospective study

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Background: Paget's disease of the breast is a relatively uncommon malignant process that can mimic benign diseases. It is a pathohistological diagnosis and different breast surgeons use different biopsy methods. This audit aims to assess whether there are benefits in a particular biopsy method being used.

Methods: A retrospective case audit was performed using the records of the Pathology department to gather the case records of patients who had undergone nipple biopsy over the last eight years at a Glasgow teaching hospital. The audit took into account: age, gender, presenting complaint, biopsy, biopsy result and definitive diagnosis.

Results: Over the last eight years in the Victoria Infirmary 121 nipple biopsies were performed, and of those 24 cases of Paget's disease were detected. Only two biopsy methods were used. Punch biopsies had a stronger predictive value than excision (100 v 90) but a lower negative predictive value (95 v 98.3). In seven cases overall there was more than one biopsy taken, six of these involved malignant disease. 9% of punch biopsies needed repeating compared with 1% of excision biopsies. These biopsies needed confirming with another to verify diagnosis

Conclusions: There appears no significant difference between the two main biopsy modalities in Paget's disease. Given the similar outcomes it may be postulated that punch biopsies be the first line as they can be performed in the outpatient setting with a smaller incidence of morbidity and allowing the patient to return home that day. However, punch biopsies often needed repeating and maybe more than one punch should be taken.

O-92. The frequency of breast cancer screening: results of a randomised trial

Duffy S, Blamey RW *for the Breast Screening Frequency Trial Group; UKCCCR & CRUK*

This randomised trial in 110,000 women between 1989 and 1996 compared screening at the standard interval of 3 years (Controls – C) with screening annually (Trials – T), in women aged 50–64 who had undergone a prevalent screen.

A previous analysis used the Nottingham Prognostic Index (NPI) to predict outcomes of invasive carcinoma diagnosed; these predictions were based on observed survivals in cancers prior to 1988.

However survival within each NPI group has improved, due to better therapy. Recalculation is based on these new figures of outcomes within each NPI group.

1. Predicted outcomes for, are compared with the observed outcomes at, six years:

Invasive cancers

	Diagnosed		Predicted surviving at 10 years		Observed surviving (actuarial) at 10 years	
	C *n*	T *n*	C *n*	T *n*	C *n*	T *n*
GPG	92	113	87	108	89	107
MPG	87	96	68	76	66	82
PPG	22	20	11	10	14	14
Total	201	229	166 (82%)	194 (85%)	169 (84%)	203 (89%)

There is good agreement between the predicted and observed 10 year survivals. Neither show significant difference between C and T groups.

2. Although in the Trial group there were more cases in the GPG and less in the PPG, this was not large enough to significantly improve survival and the absolute difference is