screening, reporting symptom-GP periods of 2.5 and 4 years. The median period between the first GP- and breast clinic visit was 7.0 days (95% CI 5.9−8.1) in symptomatic screened patients and 6.0 days (95% CI 4.0−8.0) in control patients.

Conclusion: Our results show that false reassurance played, at most, only a minor role in breast cancer screening.

Patient group	Symptomatic screened group	Control group	P value
Total number included	N = 32	N = 42	
Time in days between discovery of the (first) symptom and the first GP visit			
(Median, 95% CI)	7.0 (0.0−15.3)	13.5 (7.3−19.7)	0.9 [a]
(⩾30 days: n, %)	10 (31.2)	13 (31.0)	0.9 [b]
(⩾90 days: n, %)	4 (12.5)	8 (19.0)	0.4 [b]
Time in days between first GP visit and first breast clinic visit			
(Median, 95% CI)	7.0 (5.9−8.1)	6.0 (4.0−8.0)	0.9 [a]
(⩾10 days: n, %)	7 (21.9)	11 (26.2)	0.6 [b]

[a]Kaplan–Meier, [b]Chi square test.

173 Poster Discussion

Development of blood based gene expression test to detect early stage breast cancer in an Indian population

D. Tobin[1], T. Lindahl[2], K. Bårdsen[1], M. Kauczynska[2], D.P. Punia[3], Y. Kumar[4], C. Desai[5], C. Shroff[6], A.L. Børresen Dale[7], P. Sharma[1].
[1]DiaGenic ASA, R&D, Oslo, Norway; [2]DiaGenic ASA, BioInformatics, Oslo, Norway; [3]SP Medical College, Oncology, Bikaner, India; [4]Panacea Hospitals Pvt. Ltd, Oncology, Bangalore, India; [5]Vedanta Inst of Med Sciences, Oncology, Ahmedabad, India; [6]Shreya Hospital, Oncology, Ahmedabad, India; [7]Rikshospitalet-Radiumhospitalet Medical Centre, Department of Genetics, Oslo, Norway

Background: We have previously reported in 3 separate studies [1−3] the potential use of gene expression profiling in peripheral blood cells for early detection of breast cancer. Recently, we presented results from a study using Scandinavian/American women and a 96 transcript-set for the classification of breast cancer with an accuracy of 82%, sensitivity of 87% and specificity of 76% [4]. ROC analysis showed an area under the curve for these studies to range from 0.80 to 0.89. The current study investigates the efficacy of the blood based test with an Indian cohort.

Methods: We have initiated a large clinical trial tot test the efficacy of a 96 transcript set for detecting breast cancer in an Indian population. The patient population includes approximately 720 subjects with or without breast cancer from various geographical locations within India, including the North, South, East and West of India. The healthy population includes women with benign lesions, and women with no mammographic findings. Recruitment for breast cancer patients includes early and late stage cancers. The standard of truth for benign and cancerous findings was histopathology or cytology. Recruitment for all cohorts is age balanced to include women below and above the age of 50 in order to obtain both pre- and post-menopausal women. All laboratory handling of blood and gene expression testing was performed in India outside of the DiaGenic laboratory. The study population will be divided into a training set and a test set for validation of diagnostic efficacy. Recruitment for this study is planned to continue until early 2008 and the latest interim data is presented.

Results: An interim analysis has been performed with 113 subjects from multiple centres. The results obtained indicate that the informative transcripts identified from Scandinavian/American women efficiently discriminate breast cancer from non-breast cancer in Indian women. The sensitivity and specificity of the test lies in the same range as that presented above for previous studies, with an area under the curve (AUC) from receiver operator curve (ROC) analysis of 0.83.

Conclusion: The interim data from 113 Indian subjects suggests that transcripts identified from a Scandinavian/American cohort are informative for discirminating breast cancer from non-breast cancer. The AUC from ROC analysis of 0.83 suggests a potential role of this test as an additional tool in the breast cancer diagnostic work-up in India.

References

[1] Sharma P, et al. Breast Cancer Res 2005;7(5): R634−44.
[2] Aarøe J, et al. The 97th American Association for Cancer Research, Annual Meeting, 1−5 April 2006, Washington DC, USA.
[3] Aarøe J, et al. The 19th EACR Conference, 1−4 July 2006, Budapest, Hungary.
[4] Børresen Dale A-L, et al American Association for Cancer Research, Annual Meeting 14−18 April 2007, Los Angeles, USA.

174 Poster Discussion

Internal mammary lymph drainage and sentinel node biopsy in breast cancer – a study on 1008 patients

E. Heuts[1], F.W.C. van der Ent[2], M.F. von Meyenfeldt[1], A.C. Voogd[3].
[1]University Hospital Maastricht, Surgery, Maastricht, The Netherlands; [2]Maaslandziekenhuis Sittard, Surgery, Sittard, The Netherlands; [3]Maastricht University, Epidemiology, Maastricht, The Netherlands

Background: Nowadays, axillary sentinel node (SN) biopsy is a standard procedure in the staging of breast cancer. Although the internal mammary (IM) lymph node status is a major independent prognostic factor in breast cancer patients, sampling of IM sentinel nodes (IMSNs) is not performed routinely. The aim of this study was to evaluate the relevance of IMSN biopsy as a method to improve staging and determine the likelihood of finding IM lymph node metastases in case of IM hotspots on lymphoscintigraphy.

Material and Methods: Between April 1997 and May 2006, a total of 1008 consecutive patients with clinically node-negative operable primary breast cancer were enrolled in a prospective study on SN biopsy. Both axillary and IMSNs were sampled, based on lymphoscintigraphy, intraoperative gamma probe detection and blue dye mapping, using 10 mCi (370 MBq) 99mTc-nanocolloid injected peritumorally, and 0.5–1.0 ml Patent Blue V injected intradermally.

Results: Lymphoscintigraphy showed axillary sentinel nodes in 98% (989/1008) and IMSNs in 20% of the patients (196/1008). Sampling the IM basin, as based on the results of lymphoscintigraphy, was successful in 71% of the patients (139/196) and revealed metastases in 22% (31/139). In 29% percent of the patients with positive IMSN's (9/31) no axillary metastases were found.

Conclusions: Evaluation of IMSNs improves nodal staging in breast cancer. Patients with IM hotspots on lymphoscintigraphy have a substantial risk (22%) of metastatic involvement of the IM chain. In addition, true IM node-negative patients can be spared the morbidity associated with adjuvant radiotherapy.

175 Poster Discussion

The sensitivity of breast tomosynthesis compared to digital mammography in the detection of breast cancer in patients referred to an outpatient breast clinic, a prospective analysis

H.J. Teertstra[1], C.E. Loo[1], S.H. Muller[1], E.J.T. Rutgers[2], K.G.A. Gilhuijs[1].
[1]Antoni van Leeuwenhoek Ziekenhuis, Radiology, Amsterdam, The Netherlands; [2]Antoni van Leeuwenhoek Ziekenhuis, Surgery, Amsterdam, The Netherlands

Background: Mammography is the first radiological method of investigation in symptomatic patients with breast abnormalities, despite its well-known false-negative rate. Tomosynthesis is a new method to detect breast cancer. We conducted a prospective study in which we investigated the value of Tomosynthesis in a group of patients, referred to our outpatient breast cancer clinic.We compared the sensitivity of tomosynthesis alone with digital mammography alone.

Material and Methods: From 1−6–2006 until 1−6–2007, 1028 women visited our outpatient clinic. 513 participated in the study. In these patients, digital mammography and tomosynthesis were performed. The sensitivity to detect breast cancer was compared.

Results: Malignancy was diagnosed in 193 patients. In 85 of these cases, the Birads-classification was 6. The Birads score of the other 108 breasts with carcinoma is presented in the table.

Birads	Mammography	Tomosynthesis
0	0	1
1	5	6
2	2	0
3	19	11
4	40	37
5	42	53

Without further workup (ultrasound and biopsy), 6 of 108 carcinomas would have been missed using tomosynthesis alone (classified: Birads 1), 7 carcinomas using Mammography alone (Birads 1 or 2).

Two carcinomas would have been missed using both techniques combined. The addition of tomosynthesis to standard digital mammography detected five more carcinomas.

Conclusion: The addition of tomosynthesis to mammography detected five more carcinomas, but four of them (in our group of symptomatic