(University Halle/Germany) has been established. Ethical approval was obtained.

1. Minimal incidence data on breast cancer from the urban setting is obtained from the pathologists' case registries since 2006 in Addis Ababa.
2. Details on clinical course of breast cancer are obtained from charts of the virtually only department in Ethiopia offering systemic therapy and radiotherapy (Radiotherapy Center Addis Ababa).
3. Data on minimum disease specific mortality of cancer in rural settings is obtained by a field survey using semi-structured interviews.

Results:

1. At University Hospital Tikur Anbessa 8–9000 specimen are analyzed per year. Since this is by far the largest pathologic Department in the country, a thorough picture of histologically proven breast and cervical cancer in Addis Ababa is given. Basic data on histology, tumor stage, age and origin of the patient is obtained.
2. At the Radiotherapy Center >1000 patients with breast cancer were registered 2006−10. About two thirds of the patients received endocrine therapy. Clinical and pathological data is obtained as well as information on therapy. Follow-up data is collected.
3. A modified version of the 'Indepth network's' verbal autopsy (VA) questionnaire is combined with the approach of sisterhood method to interview 2500 women in rural Ethiopia. In each interview general information about the respondent's sisters were gathered. In case one of them died within the last ten years, a VA was done to identify the cause of death. Distribution of communicable and non-communicable diseases within the 200 verbal autopsies (including female cancer) is analyzed.

Conclusions: Oncologic diseases are emerging also in countries with limited resources. To obtain basic data on the magnitude of the problem, we collect retrospective urban and rural data from hospital based information, pathologic registries and by structured interviews.

162 Poster

Implementation of a Digital Second Reading Center for Breast Cancer Screening Program in the French Community of Belgium

M. Candeur[1], T.H. de Foy[1], A. Vandenbroucke[1]. , ***Background:*** *The screening program for breast cancer has started in June 2002 in the French Community of Belgium. The double reading of analog images was performed in a decentralized manner in five provincial coordination centers.*

The evolution of mammography units to digital has enforced changes in the operation of the program. In order to rationalize expenses and to centralize data, an unique Center of second reading has been created.

Material and Methods: The second reading Center is functional since September 2009. It has been equipped by a PACS allowing archiving of images in the original format DICOM and by a diagnosis console able to read mammograms produced by various types of equipment.

The database called 'Mammorias' (Mammography Radiology Information and Administrative System) is accessible, via a secured web interface, to all users (administrators, technologists, radiologists) with private and confidential usernames and passwords, allowing differential access to information.

The use of Mammorias by all partners in the program reduces significantly the risk of errors and allows the automatic management of multiple tasks previously performed manually (check of the consistency of reading reports, mail management . . .).

When performing the digital Mammotest, administrative data and contact information of referring physicians of participating women are registered in Mammorias.

Radiologists record the result of the first reading. The pictures are transferred to the second reading Center via a secured internet connection, by sFTP or VPN procedures.

The sFTP procedure (Secure File Transfer Protocol) is manageable through simple and free software that can be set up rapidly.

The VPN procedure (Virtual Private Network) allows bidirectional transfer of images in an automated way from PACS to PACS, and enable the first reading units downloading dynamic archives stored at the second reading Center.

Both procedures require an Internet connection of an ascending flow (upload) at least 512 Kbit/s.

A link between Mammorias and the PACS allows the second readers an automatic opening of radiological images and the medical record associated, in order to realize the double reading and to save the result.

Result letters, generated by Mammorias, are sent to referring physicians within maximum 5 days.

If the Mammotest requires further investigations, a copy of the mammogram is attached to the letter on a CD-ROM.

The results can also be transmitted electronically by a secured procedure.

Conclusion: Management of the screening program for breast cancer in the French Community of Belgium has been considerably improved, simplified and secured through the establishment of a unique digital second reading Center.

In addition, the centralization of the double reading and archiving of radiological images is of a major interest for evaluation and training of radiologists both 1st and 2nd readers.

163 Poster

A Subtype of Gene Expression with Claudin-low Features in Normal Breast Tissue and in Fibroadenomas

V.D. Haakensen[1], T. Lüders[2], M. Riis[2], A. Prat[3], C. Perou[3], V. Kristensen[4], A.L. Børresen-Dale[1], A. Helland[1]. *[1]Oslo University Hospital, Department of Genetics, Oslo, Norway; [2]Akershus University Hospital, Department of Clinical Molecular Biology, Lorenskog, Norway; [3]University of North Carolina at Chapel Hill, Dept of Epidemiology and Lineberger Comprehensive Cancer Center, Chapel Hill, USA; [4]Akershus University Hospital, Department of Clinical Molecular Biology, Lorenskog, Norway*

Background: Increased understanding of the variability in normal breast biology and benign breast disease will enable us to identify mechanisms of breast cancer initiation and the origin of different subtypes that can better predict breast cancer risk.

Material and Methods: Gene expression patterns in breast biopsies from 79 healthy women referred to breast diagnostic centers in Norway were explored by unsupervised hierarchical clustering and supervised analyses, such as gene set enrichment analysis (GSE) and gene ontology (GO) analysis and comparison with previously published genelists, and validated in independent datasets. Similar methods were used to analyze a dataset of 12 fibroadenomas collected in Akershus University Hospital, Norway and related to subtyping of breast carcinomas.

Results: Unsupervised hierarchical clustering of genome wide gene-expression data of the normal breast tissues identified two separate clusters, regardless of clustering algorithm and gene filtering used. Comparison of the expression profile of the two clusters with several published gene lists describing breast cells revealed that the samples in cluster 1 share characteristics with stromal cells and stem cells, and to a certain degree with mesenchymal cells and myoepithelial cells as well as the claudin-low intrinsic breast cancer subtype. A higher proportion of women belonging to cluster 1 have a family history of breast cancer and are nulliparous. The 11 fibroadenomas were subtyped and clustered unsupervised and GSE and GO analyses are ongoing and results will be presented.

Conclusion: We have identified distinct gene expression subtypes in whole biopsies from normal breasts and in fibroadenomas. The results are validated in separate datasets. Particularly interesting is the finding of a cluster with stromal, stem-cell like and claudin-low features. Further studies are needed to determine the specific cell contribution to the variation in the biology of normal breasts, how the clusters identified relate to breast cancer risk and their possible link to the origin of the different molecular subtypes of breast cancer.

164 Poster

Five-year Survival and Prognostic Factors in a Cohort of Breast Cancer Patients Treated in Brazilian National Cancer Institute, Rio De Janeiro, Brazil

M. Bello[1], E.C. Millen[1], P.A.O. Carmo[1], R.C. Motta[1], L.C.S. Thuler[2], A. Bergmann[2]. *[1]Brazilian National Cancer Institute, Mastologia, Rio de Janeiro, Brazil; [2]Brazilian National Cancer Institute, cedc, Rio de Janeiro, Brazil*

Background: This study estimates survival rates and its the main prognostic factors related, in women with breast cancer and submitted to local and systemic treatment in brazilian National Cancer Institute between 2001 to 2002.

Objectives: The purpose of this study was to analyze five-year survival and the main prognostic factors among women with breast cancer diagnosed from 2001 to 2002 that had undergone surgical treatment in the Brazilian National Cancer Institute (INCA).

Material and Methods: The survival curves were obtained in a hospital cohort of breast cancer with 1076 patients diagnosed and treated between 01/08/2001 and 01/12/2002, with median follow up time was 61 months (range 1 to 94 months) and mean patients age was 55,9 years (standard deviation 13,1). The Study variables were: age, marital status, tumor-related variables and the treatment-related variables. Survival functions were calculated by the Kaplan–Meier method.

Results: Among all patients, 23% performed neoadjuvant chemotherapy, 3% performed neoadjuvant hormone therapy and 2% performed neoadjuvant radiotherapy. A mastectomy was performed in 65%. In 84% of cases,

lymphadenectomy was performed at the axillary level III with an average of 17 lymph nodes removed (SD 6.40) and 46% had positive lymph nodes. Most had advanced pathological stage (57% II and 23% III) and 86% were ductal carcinoma infiltrante.O adjuvant treatment with chemotherapy was performed in 59%, the adjuvant radiotherapy performed in 63% and adjuvant hormone therapy in 68%. Patients were followed for a median 61 months (1−94), 16% of deaths occurred in the period, with average survival time of 82 months (95% CI 81−84) (Figure 1). In Kaplan-Meier analysis, the variables that were statistically associated with better overall survival were initial staging ($p < 0.000$), negative lymph nodes ($p < 0.000$), tumor size ($p < 0.000$), number of lymph nodes removed ($p = 0.005$), adjuvant chemotherapy ($p = 0.013$) and neo-adjuvant ($p < 0.000$), adjuvant hormone therapy ($p = 0.001$), CDI ($p = 0.005$), conservative surgery ($p < 0.000$).

Conclusions: Overall survival is similar to data found in the literature for staging. The results suggest the need for early diagnosis and treatment.

165 Poster

Breast Cancer Control in Iran: National Screening/specialized Breast Unit, Which One is the Urgent Priority?

A. Joulaee[1], M. Kadivar[2], M. Kalantari[3], S. Joolaee[4], N. Bahrani[5], F. Solat[6], I. Neshandar[7], H. Azizmohammadi[7], S.H. Hosseini[8], G. Mazdaee[9]. *[1]Shahid Behshti University Of Medical Science, Breast Unit, Tehran, Iran; [2]Tehran University Of Medical Science, Pathology, Tehran, Iran; [3]Shahid Beheshti University Of Medical Science, Radiology, Tehran, Iran; [4]Tehran University Of Medical Science, Nursing And Midwifery Education, Tehran, Iran; [5]Artesh University, Department Of Statistic, Tehran, Iran; [6]Shahid Beheshti University Of Medical Science, Pathology, Tehran, Iran; [7]Shahid Beheshti University Of Medical Science, Nuclear Medicine, Tehran, Iran; [8]Iran Mehr Hospital, Patholgy, Tehran, Iran; [9]Laleh Hospital, Clinical Oncologist, Tehran, Iran*

Background: Rapid correct diagnosis and treatment is the key point in breast cancer control worldwide. Screening decreases breast cancer mortality through detection of small non palpable lesions. Due to high cost, the need for enough imaging centers and radiologists actually it is not affordable for many health care systems in populated low resource countries.

Specialized Breast Unit is a cost effective program. While increasing the accuracy and the quality of care the total cost of diagnosis and treatment of breast disease is significantly decreased. More there is limitation of health budget more it is important to go through this program as an urgent act for breast cancer control according to international guidelines. In this study we try to show the actual problems of breast cancer in Iran and the efficacy of Specialized Breast Unit to solve them.

Material and Method: All published data about breast cancer in Iran are reviewed since 2001 to 2011 to list the problems. Then the workflow and outcome of our unit between 2003 to 2011 with total 52 114 visits are analyzed to show how does it help to solve theses problems.

Results: Younger age of the patients, late presentation, delayed diagnosis and small number of non palpable lesions are the major features of breast cancer in Iran. Mastectomy and axillary dissection is the dominant approach. Cancer diagnosis is based on excisional/incisional biopsy or frozen section. Sentinel node biopsy, reconstruction and screening are offered in few centers.

Multidisciplinary team work in specialized breast unit provides rapid assessment of breast symptoms with correct pre-operative imaging. Trucut biopsy is done for all suspected palpable and non palpable lesions. This simple act has resulted in tailored surgery (conservative, mastectomy with or without immediate reconstruction) and sentinel node biopsy for all eligible cases and active participation of patients in treatment plan. All women are offered sporadic screening when indicated. Team work approach has decreased the number of visits and unnecessary surgeries.

Conclusion: Correct diagnosis and treatment of breast cancer as a life threatening disease is the duty of all health care systems regardless of their budget. If screening as the standard for early detection in asymptomatic women is considered as an option, **Specialized Breast Unit** is an obligation for correct diagnosis and treatment of both symptomatic and asymptomatic breast cancers. It is cost effective and helps to shift from dominant Halstead concept through international standards even in low resource countries. Without these referral units no attempt can be done for breast awareness programs, training and further screening.

166 Poster

Radial Scar and Its Association with Malignancy: Retrospective Audit

D. Akolekar[1], D. Kulkarni[1], M. Barber[1]. *[1]Western General Hospital Edinburgh, Breast Unit, Edinburgh, United Kingdom*

Background: Radial scar/complex sclerosing lesions (RS/CSL) arise in the breast tissue without any previous trauma/surgery. They are not 'scars' in the true sense and the likely cause is either localised inflammatory reaction or ischaemia of the breast tissue. The incidence rate of radial scar has gone up significantly due to screening programme.

The reported prevalence in the screening programme is between 0.1 and 2.0 per 1000 mammograms.

We reviewed cases of RS/CSL treated in our hospital over a period of five years (2004–2009) in this retrospective audit.

Materials and Methods: We included all patients diagnosed with radial scar (on triple assessment) that had core biopsy followed by excision biopsy in this audit.

The case notes were obtained and studied for clinical, radiological and pathology details such as palpable abnormalities, mammographic and ultrasound appearance, micro calcification, size of the lesion on radiology and final pathology, and type of associated cancer. Correlation was made with Ultrasound, Mammography, core biopsy findings and final histology.

Results: 73 case notes were made available for the audit (59 screen detected, 14 symptomatic clinic).

27 (37%) patients had associated palpable abnormality (nodularity, lump, tenderness, thickening) on clinical examination.

The mammographic abnormalities reported were typically distortion of architecture (DOA: 57/73) or opacity (10/73). Six patients had associated microcalcification with DOA. Average size of the lesion on radiology was 14.6 mm.

R-Score analysis (R score refers to mammographic score: ranging from 1 to 5): Mean = 3.63, standard error = 0.1, Standard deviation = 0.81, Median = 4.00.

U Score analysis: (This is similar scoring to R score from1 to5) on Ultrasound. Mean = 3.39, standard error = 0.12, Standard deviation = 1.00, Median = 3.00.

All patients had Ultrasound/stereo wire guided excision biopsy. Final histology confirmed that 17/73 (23.2%) had associated ductal carcinoma in situ (DCIS) and/or invasive cancer (DCIS in 10/73 cases, tubular carcinoma 4/73 cases, 1/73 Invasive carcinoma grade 1, and two cases of DCIS with invasive and tubular carcinoma).

The invasive carcinoma associated was tubular variety or low grade (grade 1) cancer.

Four patients had lobular carcinoma in situ (LCIS) and one patient had small focus of atypical lobular hyperplasia.

There was no significant association between clinical abnormality, size of the scar or mammographic appearance and DCIS/invasive cancer.

Conclusion: In this series, 23.2% of cases with radial scar had associated DCIS or invasive cancer.

There was no significant correlation between clinically palpable abnormality, size of the radial scar or mammographic appearance and association with DCIS or Invasive cancer.

The associated invasive cancer with radial scar is low grade, mainly tubular cancer.

Based on these findings, those with a finding of radial scar should be advised to undergo excision due to the risk of associated disease.

Wednesday, 21 March 2012 12:00–13:15

POSTER SESSION

Pathology

167 Poster

The Clinical Features and Prognosis of Tubular Breast Cancer

M. Izquierdo[1], F. Tresserra[2], I. Rodriguez[3], R. Fabregas[1], M. Cusido[1], C. Ara[1], S. Baulies[1]. *[1]Institut Universitari Dexeus, Gynaecology, Barcelona, Spain; [2]Institut Universitari Dexeus, Patology, Barcelona, Spain; [3]Institut Universitari Dexeus, Epidemiology, Barcelona, Spain*

Background: Compare the clinical features and prognosis of Tubular Breast Cancer with the rest of Breast Cancer Grade I.

Materials and Methods: Analyzed all Tubular breast cancer studied in Breast Diseases Committee during the period 1990–2009, comparing the clinical features and prognosis of Tubular breast cancer with the rest of breast cancer grade I, the free disease survival were analyzed with Kaplan Meier curves.

Results: Studied 170 cases, 41 (24'1%) Tubular Breast Cancer and 129 (75'9%) the rest of Breast Cancer Grade I. No differences in the average age of patients with Tubular Breast Cancer and Breast Cancer Grade I. (51,9 versus 52'7),family history, parity, fertility treatment, nulliparous, menopausal status, tumour size, and hormonal receptors. HER2 receptors are more frequents in Breast Cancer Grade I. Two cases of Tubular Breast Cancer (4'8%) less than 15 mm have nodal involvement. In Tubular