considerably regarding starting age. We investigated whether initiation of screening could be optimized using family history on age at diagnosis.

Material and Methods: We analyzed the age at breast cancer detection of 1304 first and second degree relatives of 314 *BRCA1*, 164 *BRCA2* and 244 high-risk participants of the Dutch MRI-SCreening study. The within and between family variance in age at diagnosis was analyzed with a random effect linear regression model. We compared effects of starting age of screening based on risk-group or on family history only, and on the model, combining the two. The findings were validated in 63 families from the UK- MARIBS study.

Results: Mean age at diagnosis in the family varied between families; 95% range of mean family ages was 35−55 in *BRCA1*-, 41−57 in *BRCA2*- and 44−60 in high-risk families.14% of the variance in age at diagnosis was explained by family, 7% by risk group. When starting screening was based on family-ages alone some cancers were missed, when based on risk group alone women were screened unnecessarily long. The model approach could prevent on average 2 unnecessary screening years per patient, without missing cancer cases.

Conclusions: Age at breast cancer diagnosis is partly family dependent, which should be taken into account for determining starting age for preventive measures. Our model can be used to balance the disadvantages of starting too early and the risk of starting too late.

---

151   Poster

Utility of the CellSearchTM System to Predict Radiologically Confirmed Failure of Systemic Therapy in Patients with Metastatic Breast Cancer − a Single-institution Experience

C.M. Kurbacher[1], S. Dexel[2], U. Schween[2], J.A. Kurbacher[3], R. Reichelt[2]. [1]*Medical Centre Bonn-Friedensplatz, Gynecologic Oncology, Bonn, Germany;* [2]*L.a.n.c.e. mbH, Bonn, Germany;* [3]*Medical Centre Bonn-Friedensplatz, Gynecology and Obstetrics, Bonn, Germany*

The occurrence of circulating tumor cells (CTC) in the peripheral blood of patients (pts) with metastatic breast cancer (MBC) is now widely recognized as an adverse prognostic factor. Moreover, CTC determination has been successfully used to monitor various systemic antineoplastic treatments (Tx) in MBC. Moreover, serial CTC measurements seem to be a more rapid and sensitive means to assess Tx failure as any routinely applied radiologic technique. Among different methods introduced so far for CTC detection, the CellSearch[TM] system (CSS; Veridex, Raritan, NJ) is the only one which has achieved both an FDA-approval and a positive recommendation status in the German guidelines for diagnosis and therapy of MBC, as well. Despite its unequivocal prognostic and predictive value demonstrated in prospective clinical trials, there are only rare data for CSS in routine use so far. We hereby report on our single-institution experience with the routine use of CSS to monitor pts on systemic Tx due to MBC.

A total of 35 pts with MBC were included in this non-interventional study. Systemic Tx was as follows: chemotherapy (CTx), n = 8; endocrine Tx (HTx), n = 9; targeted Tx (TTx), n = 1; multimodal combinations of either CTx or HTx and TTx (MTx), n = 17. Baseline investigations including both CTC determination by CCS and the appropriate radiologic technique were performed immediately prior to start of Tx. A second CTC count was scheduled 6 weeks later. For all CTC counts, a value of >5 CTCs per 7.5 mL venous blood was considered pathological. The first radiologic tumor reevaluation was performed 12 weeks after Tx initiation and repeated every 12 weeks in cases that did not show clear evidence of disease progression (PD).

All pts with radiological PD showed either increasing (n = 12) or decreasing, but non-normalized CTC values (n = 3) Four of these pts had moderately increasing CTC counts within the normal range. In pts lacking radiological evidence of PD, remained normal in 12 cases, normalized in 6 cases and decreased without normalization in another 2 instances. Thus, the positive predictive value (PPV) for the CCS for Tx failure was 73.3% with a negative predictive value (NPV) of 90%. Hence, the overall predictive accuracy for radiological Tx failure was 82.9%.

To conclude these results, were able to reproduce positive predictive findings of the CCS achieved in controlled clinical trials in the clinical setting studying non-preselected pts. As in previous clinical trials, the CCS appears to be a valuable tool to monitor systemic Tx for routine MBC pts providing a particularly high predictive accuracy for Tx failure. Moreover, CCS is both easy to perform and able to precede any radiologic tumor imaging by at least 6 weeks, as well. Therefore, we urgently await that CTC-monitored Tx for MBC should be included any in large-scaled clinical trial in future.

---

152   Poster

Usefulness of Telemammography Using Soft-copy CR (computed Radiography) in Mammographic Screening in Japan

T. Sugimoto[1], Y. Nakauchi[2], F. Suehiro[2], Y. Okada[3], T. Funakoshi[1], N. Hokimoto[1], M. Ogawa[1], K. Hanazaki[1]. [1]*Kochi Medical School, Surgery, Kochi, Japan;* [2]*Kochi Kenshin Clinic, Screening, Kochi, Japan;* [3]*Kochi Kenshin Clinic, Radiology, Kochi, Japan*

Background: Over 70% of mammography apparatus in Japan have already become digital. About 80% of them utilize CR (computed radiography), and the majority of them necessitate hard-copy reading. Therefore, the evaluation of soft-copy CR mammography interpretation is still controversial. However; hard-copy reading cannot show superiority of digital technology to conventional scree film (S/F) system. The purpose of this study is to clarify the usefulness of soft-copy CR mammography through our 6 years' experience of mammographic screening with telemammography.

Screenees and Methods: We took CR mammograms of 28,741 women with PCM system (Konica Minolta) and digitized them with Regius Model 190 (Konica Minolta) at Kochi Kenshin Clinic, between July 2005 and March 2010. We interpreted the soft-copy of them using Vox-Base II (J-MAC System. Inc.) with a couple of 5M-pixel monochrome LCD monitors and transferred them to Kochi Medical School via optic fibers (provided by NTT and STNet). The security of network was protected by Virtual Private Network (VPN). We interpreted them using two kinds of mammography viewing system: SenoAdvantage (GEYM) and a viewer produced by Carestream Health and reported the results of interpretations through the same network.

Results: 15,460 screenees (53.8%) had a mammogram in the past 2 years. The recall rate was 6.0%, the cancer detection rate 0.33% and the positive predictive value 5.5%. These results were not inferior to those of Kochi Prefectural screening program using S/F mammograms of 82,154 screenees during the same period (6.7%, 0.30% and 4.4%, respectively). Moreover, telemammograpy and online reporting enabled screenees to know their own results within 1 week that is over 1 week shorter than before telemammography introduction. We provided the redundant labor force that was acquired from telemammography for telephone recall. As result, the hospital visit rate of recalled women increased to 92.2% from 60.5% during 6 years.

Conclusions: The long-term results of mammographic screening using soft-copy CR is almost equivalent to those of S/F system. Moreover, telemammograpy and online reporting could yield various beneficialness for screenees. Therefore, sot-copy CR mammography might be useful for mammographic screening in Japan.

---

153   Poster

Anthropometric Breast Measurement − a Study of 55 Korean Female

M.j. Kim[1], M.s. Kim[2], S.j. Kim[1]. [1]*The Catholic University Of Korea, Obstetrics And Gynecology, Gyeonggi-do, South Korea;* [2]*the Catholic University Of Korea, Clinical Medicine, Seoul, South Korea*

Background: Anthropometric measurements and proportions of the human body have made a significant contribution to the science of aesthetic and reconstructive plastic surgery. The present study was performed to measure anthropometric breast values in Korean female and compare them with those of women in other nations.

Methods: The study included 55 female between the ages of 20 and 50 years with no physical or developmental deformity. A total of 19 parameters were measured in a standing position. The parameters measured were body weight, height, shoulder width, upper chest width, middle chest width, lower chest width, waist width, hip width, clavicle-nipple length, sternal notch–nipple length, nipple–nipple length, upper arm length, medial mammary radius, lateral mammary radius, nipple–inframammary fold length, nipple diameter,areola diameter, nipple projection, and mammary projection. Breast volume, breast ptosis, and retracted nipple rates were also assessed.

Results: As a result, an average breast volume for Korean women was obtained (289.96±212.5 cc 325.36 ml), and a table with several linear equations for calculating. The ideal external view of the breasts with equal volume for both sides and no ptosis was observed in 12.3% of the volunteers. The percentage of women with unilateral or bilateral retracted nipple was 16.7%.

Conclusions: The results of the present study will help in comparing the anthropometric breast values of Korean women with those of women in other countries.