breast cancer patients have tumors that can be attributed to inherited mutations.

Materials and Methods: The aim of this medical unit is to develop a database, to perform long-term follow up of families with familial or hereditary breast cancer and to include both the patients and their families in special programs for prevention, follow up and timely treatment. Detailed clinical and pathological data as well as detailed family history are being input in an electronic database. Genetic testing is being performed after informed consent of high risk patients according to international risk calculation models for familiar and hereditary breast cancer such as Gail model etc. Each input is confidential and secured with a unique ID.

Results: In total 986 cases have been collected in the database and they have been classified as sporadic, familial and hereditary according to the family tree. In particular 743 (75.5%) patients had sporadic cancer and 226 (23%) familial breast cancer. Moreover in this data bank there are 17 (1.5%) cases of male breast cancer. Regarding the treatment 12 women with family history of hereditary breast cancer underwent bilateral mastectomy and 5 of them underwent bilateral oophorectomy as well. Genetic testing and classification of high risk individuals is on-going.

Conclusions: Patients with familial or hereditary cancer benefit from a program of close follow up and treatment. There is a strong need for appropriate management and long-term follow up by special medical units for prevention and genetic consultation in this population.

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Delays in Time to Treatment in Breast Cancer; Does It Really Have an Impact on Overall/Disease Free Survival?

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Background: Time interval from diagnosis of breast cancer to treatment has been promulgated as one factor that can be used to evaluate cancer care quality. It remains controversial, however, whether a delay to treatment impacts survival. The purpose of this study was to evaluate whether delays from diagnosis to initial first treatment in breast cancer impacts overall and disease free survival.

Material and Methods: A retrospective review of patients undergoing breast cancer treatment between 2000 and 2010 in both Qaem and Omid university hospital was undertaken. The interval to treatment was defined as the time between date of pathological diagnosis, usually via open biopsy, and the date of initial therapy, either surgical or systemic. In statistical analysis, overall survival time was calculated as the interval from the date of diagnosis to the last clinical control or death; disease free survival time was calculated as the interval between the date of diagnosis to the metastasis and/or recurrence. This study was approved by Ethics Committee affiliated to the Deputy of Research.

Results: 452 patients were included in this study. The median value was 15 days for time to first treatment. Initial analysis was revealed that survival is dependent on the stage of presentation. Subsequent analysis was therefore performed to evaluate the impact of the delay itself upon overall / disease free survival. The patients were divided into 2 groups based on interval to treatment. There was no association between the interval to treatment after a diagnosis of breast cancer and overall / disease free survival.

Conclusions: Time to treatment may not be a meaningful indicator of cancer care quality because it was no effect on overall/ disease free survival. It seems that surgeons need to reconsider the time of surgery. Because after diagnosis, patients need time to decide between different treatment options and make psychological counseling.

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Breast Cancer and Multiple Primary Tumors in the Belorussian Cancer-registry

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Background: Breast cancer is the leading cause of cancer-related death for women in Belarus. The risk of breast cancer after an earlier primary cancer, as well as the risk of developing multiple primaries after an earlier breast cancer was studied.

Materials and Methods: The retrospective cohort study used a cohort consisting of 643693 cancer cases diagnosed between 1990 and 2007. Cases were identified from records of the Belorussian National Cancer Registry and followed for breast cancer development through 2007. Proportions and Standardized Incidence Ratios (SIR) of synchronous (latency between diagnosis's less than a year) and metachronous primary multiple breast cancers (PMBC) were investigated. It was considered 3070 PMBC (898 synchronous and 2172 metachronous with first tumor in breast).

Results: More often synchronous breast cancer combines with tumors of breast, skin and corpus uteri. Significantly high difference between observed and hypnotically expected (on the base of population incidence level) numbers was noted for all synchronous PMBC and for secondary cancers of colon (SIR=1,6; 95% CI 1,1−2,35), rectum (SIR=2,48; 95% CI 1,8−3,37), stomach (SIR=2,2; 95% CI 1,7−2,8), breast (SIR=5,1; 95% CI 4,52−5,74), kidney (SIR=3,87; 95% CI 2,74-.5,31), thyroid gland (SIR=3,58; 95% CI 2,48−5,01), ovary (SIR=3,23; 95% CI 2,4−4,26), melanoma of skin (SIR=4,13; 95% CI 2,52−6,38). The highest risk of synchronous PMBC was established for combination with salivary glands (SIR=5,19; 95% CI 1,07−15,16). Metachronous PMBC with first breast cancer was more frequently noted with tumors of skin, breast and corpus uteri. The highest risk of metachronous PMBC was established for combination with esophagus (SIR=3,17; 95% CI 1,45−6,01), breast (SIR=3,0; 95% CI 2,8−3,2), lung (SIR=2,3; 95% CI 1,8−2,8), corpus uteri (SIR=1,6; 95% CI 1,4−1,9), ovary (SIR=2,5; 95% CI 2,1−2,9), kidney (SIR=1,5; 95% CI 1,2−1,9), thyroid gland (SIR=1,7; 95% CI 1,4−2,15), vulva (SIR=2,0; 95% CI 1,1−3,1). Significantly low risk after breast cancer was noted for tumors of cervix uteri (SIR=0,73; 95% CI 0,53−0,99) and liver (SIR=0,21; 95% CI 0,03−0,76). Significantly offten breast cancer was developed after corpus uteri (SIR=1,2; 95% CI 1,02−1,4), ovary (SIR=2,0; 95% CI 1,6−2,5), thyroid gland (SIR=1,6; 95% CI 1,2−1,9) and significantly rare after cancer of rectum (SIR=0,6; 95% CI 0,4−0,9).

Conclusions: High risk of PMBC could be caused by common etiological factors. Low rates (as for cervix uteri and liver cancer) could give evidence that breast cancer treatment decreases the risk of secondary tumors.

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Recall Mammography and Psychological Distress

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Background: Despite the success of the mammography screening programme, concerns are still being voiced regarding the adverse psychological impact in regard to recall mammography (i.e. false positives). Our object was a) to determine psychological distress before and after being diagnosed without or with cancer in women recalled for further investigation and b) the willingness to attend and recommend screening.

Methods: During the period March 2009 to May 2010, 641 women recalled for further investigation at Oslo University Hospital after attending the Oslo mammography screening, were given questionnaires (The Hospital Anxiety and Depression Scale (range 0−21), reactions and attitudes to screening and background data) before and four weeks after receiving the result. Eighty-two percent filled out the questionnaire at both time points.

Results: The majority were diagnosed without cancer after recall (87,6%). HADS-anxiety in the total sample decreased from 6,1 (4,1- SD) to 4,6 (3,5), $p < 0.0001$, whereas HADS-depression increased slightly 2,4 (2,7) vs 2,7 (2,9), p 0.001. The corresponding figures for patients **with cancer** ($n = 80$) were 6,6 (4,1) vs 5,6 (3,9) and 2,7 (2,9) vs 3,4 (3,5), for patients **without cancer** 6.1 (4,1) vs 4,5 (3,4) and 2,4 (2,8) vs 2,6 (2,8) and **in the general Norwegian population** 4.8 (3,6) and 3.7 (3,2). Women with previous anxiety and depression ($n = 46$), diagnosed without cancer had significantly higher scores than those without (previous anxiety and depression) after recall, with anxiety 11,0 (4,7) vs 8,6 (3,7) and depression 10,8 (4,1) vs 13,9 (2,1) at the two time points ($p < 0.0001$).

Nearly all women (99%) were satisfied with their participating in the screening programme, and 94% thought it was important. About 50% reported that the mammogram caused them moderate to severe pain. Ninety-eight percent would accept an invitation to the next round of screening and 99% would recommend other women to participate.

Conclusion: Recall after mammography was associated with transiently increased anxiety. There was a slight increase in depression among women diagnosed without cancer. Four weeks after screening, the level of anxiety was at the same, and depression at a lower level than in the general Norwegian population. The women were almost unanimously content with participating in the screening, will participate again and recommend other women to participate.