confirmation was always attempted. If no confirmatory diagnosis could be achieved, FDG-PET was considered to be false-positive.

Results: Increased uptake was found in the breast in most cases, less frequently in the lung, liver, bones and mediastinal lymph nodes. Unexpected and later confirmed malignant lesions (i.e. lesions not diagnosed by conventional methods) were found in 10 patients by FDG-PET leading to a change in patient management in seven. However, four FDG-PET lesions remained unconfirmed and were thus false-positive. Lesions that appeared the most difficult to confirm were mediastinal lymph nodes and liver metastases. Overall sensitivity of FDG-PET was 100%, specificity 64%, positive predictive value 80% and negative predictive value 100%.

Conclusion: FDG-PET is a useful diagnostic method for the detection of (distant) metastatic disease and local recurrences. Especially the fact that no false-negative results were found could be helpful in clinical practice. Several additional lesions were found, which have led to a change in treatment of most of these patients. Since conventional methods revealed no additional lesions, it should be the objective of further studies whether it is useful to perform FDG-PET earlier in the diagnostic work-up.

142 POSTER

The frequency of the appearance of breast cancer in the breast remaining after radical mastectomy

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Purpose: Breast cancer is one of the main problems of modern oncology. In spite of the possibilities of ray diagnostics breast cancer frequently is detected on late stages and then it is necessary to do a radical mastectomy. There are contradictory data on the rate of origin of malignant tumors in the remaining breast after a mastectomy. There is also different opinion to the dynamic monitoring over patients with a breast cancer following these operations.

The purpose of this exploration is the evaluation of frequency of the appearance of breast cancer in the remaining breast depending on the time passed after mastectomy and age when the tumor had been detected in the first breast, the definition tactics of examination of these patients.

Methods and materials: Results of examination of 3664 women with breast cancer had been analyzed. During 5 years following the operation 1539 female patients were being observed (40%); 6–10 years – 1026 (30%); 11–15 years – 733 (20%); over 15 years – 366 (10%). Along with clinical examination a mammography, sonography, ductography and pneumocystography were carried out.

Results: Malignant tumors were revealed in the remaining breast in 67 women (1.8%). The frequency of diseased for breast cancer depending on the time passed after mastectomy was as follows: during 5 years after operation – 34% of cases; 6–10 years – 30%; 11–15 years – 24%; over 15 years – 12%.

The influence of age, at which breast cancer was detected for the first breast, upon the rate of development of malignant tumor in the remaining breast after a radical mastectomy was as follows: under the age of 34 years – 7%; 35–44 years – 23%: 45–54 years – 46%; 55–64 years – 13%; 65 and older – 11%.

The frequency of diseased for breast cancer at the moment of revealing the first tumor before the age of 34 – 1.7%: 35–44 years – 2.0%: 45–54 years – 2.9%; 55–64 years – 0.9%; 65 and older – 0.9%.

Conclusion: The frequency of breast cancer development in the remaining breast prevails the morbidity in the population of women of the region by 32 times. Women with established diagnosis breast cancer must be under examination all their life.

Taking into account high percent of the tumors detected during the first 5 years after the mastectomy it is necessary to examine patients carefully before the operation with using of all available diagnostic methods.

For monitoring of remaining breast after a mastectomy the following tactics of using radiation diagnostic methods was recommended: in case of the diagnosis established in the first breast at the age under 34 years– mammography and sonography; 35–54 years – annual mammography; over 55 years– mammography every 2 years. Sonography, ductography and pneumocystography were recommended in special cases.

143 POSTER

Mammographic masses in the surveillance of BRCA 1/2 mutation carriers

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Purpose: To evaluate whether breast cancers in mutation carriers present as benign looking circumscribed lesions on the mammography.

Background: The breast cancer linkage consortium hypothesized that breast cancers in BRCA 1/2 mutation carriers may escape mammographic detection, because of rapid growth and tumor expansion and may therefore mimic benign lesions.

Patients and methods: Twenty nine carriers under surveillance developed 31 first or second primary breast cancers between 1994 and 2001 at a mean age of 44.2 years. Controls were 63 women with 67 breast cancers in the same period at a mean age of 53.8 years, also under surveillance because of a life time risk for breast cancer of at least 15%.

A review of all mammographies was done by seven radiologists.
Results:

Mammogr. lesion	BRCA 1/2 carrier		Control LTR>15%		P value
	Tumor N=31	%	Tumor N=67	%	
Circumscribed mass	7	23	3	5	0.01

Conclusion: Circumscribed mammographic lesions (usually typical for a benign lesion) are found significantly more in gene mutation carriers. These lesions should be described as at least BI-RADS 0.

144 POSTER

Clinical utility of bilateral whole-breast US in dense breasts – Is routine US examination necessary?

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Purpose: To evaluate the results of bilateral breast US examination in breasts with BI-RADS density category –3 and 4, and compare it with the results of mammographic examination.

Materials and Methods: Between November 1999 and December 2000, 1536 patients with heterogenously dense (BI-RADS density category –3) or extremely dense (BI-RADS density category –4) breasts were examined sonographically without considering asymmetrical densities in mammographies. According to the results of US and/or mammographic examination, 73 patients have undergone breast biopsy. Suggestive findings of mammography and US examinations were compared with tissue diagnoses from biopsy specimens. Sensitivity, specificity, accuracy,positive predictive value and cancer detection rate was calculated for mammography and US, separately.

Results: From 73 biopsy performed lesions, 59 were visible mammographically, and 68 were visible sonographically. Out of 16 lesions diagnosed as malignancy, 15 were seen via each modality. One malignant lesion was missed by mammography, and one by US examination. Concidering heterogenously dense and extremely dense breasts, for mammographic examinations, results were as follows: sensitivity: 94%, specificity: 97%, accuracy: 97%, positive predictive value: 25%, and cancer detection rate: 0.97%. For US examinations these results were: 94%, 96%, 96%, 22% and 0.97%, respectively.

Conclusion: Sensitivity, specificity, accuracy,positive predictive value and cancer detection rates for mammography and US were similar considering heterogenously dense and extremely dense breasts. mammography is the primary modality for breast screening. We believe that US will be useful in identifying possible missed lesions in dense mammograms and should be used as a complimentary tool in such breasts.

145 POSTER

System delay in breast cancer patients; important defect in patient's management

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Background: Delay in diagnosis and treatment of breast cancer leads to progression of disease and is associated with high mortality.

Delay in breast cancer care can be divided into patient delay (time from symptom recognition to initial medical consultation) and system delay