

etc.) are important prognostic factors – there were cases of cancer relapses and metastasises in those patients.

Conclusion: Value of temperature gradient above tumor in thermographical examination of breast cancer patients is reliable index of malignant process, i. e. important prognostic factor.

497

POSTER

Histopathologic basis for axillary sampling

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Purpose: Axillary sampling as a diagnostic procedure has its proponents and opponents. This is a retrospective study on surgical pathology material to test the probability of predicting a correct qualitative axillary nodal status with non blind sampling, on the basis of lymph node size (and possibly consistency).

Methods: Slides from 499 axillary dissection specimens for symptomatic breast cancers diagnosed as pN1 or pN0 between 1991 and 1996 were reviewed. Lymph nodes were regularly processed by cutting them through their largest dimension. Nodes were ranked in descending order on the basis of their estimated size. In case of similar size several nodes were assigned to the same category. The qualitative axillary nodal status gained from the clearance specimen was compared with the axillary status gained from the first 3 to 6 largest nodes.

Results: 265 axillary clearance specimens were positive. Concordance rates with the qualitative axillary nodal status gained from the sample of the 3 to 6 largest nodes were compared to this number (A) and all the 499 specimens (B).

	3 nodes	4 nodes	5 nodes	6 nodes
Positive axillas	236–246	250–257	253–259	258–261
% (A) only positives	89–93%	94–97%	95–98%	97–98%
% (B) all	94–96%	97–98%	98–99%	99%

Conclusion: Sampling the 4 largest (firmest) nodes seems to give a reliable approximation of the qualitative axillary nodal status for symptomatic breast cancer.

498

POSTER

DNA flow cytometry in breast carcinoma (BC): Comparison with clinical outcome

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The aim of this study was to assess the prognostic value of data obtained from DNA analysis of tumor by means of flow cytometry in BC.

Nuclear DNA content was measured in 268 radical treated BC $T_{1-4}N_{0-2}M_0$ patients. 27% of a tumours were diploid and 73% – were aneuploid ones. TNM advancing and frequency of diploid T were correlated: in $T_1N_0M_0$ patients it was 41%, in $T_2N_0M_0$ – 34%, in $T_{1-2}N_1M_0$ – 25%, and in $T_{3-4}N_{0-2}M_0$ & $T_{1-2}N_2M_0$ – 15%. Frequency of lymph nodes lesion in patients having tetraploid tumours was equal as in patients having diploid tumours; in patients having aneuploid non tetraploid tumours it was in 1.5 time higher ($p < 0.05$) and in patients having multiclonal aneuploid tumours – in 2.0 times higher ($p < 0.05$) in comparison with the patients having diploid tumours. Overall survival (OS) and disease free survival (DFS) in patients group with diploid and with tetraploid tumours were identical; its were better than OS and DFS in patients groups with aneuploid non tetraploid tumours and with multiclonal aneuploid tumours ($p < 0.05$). In BC $T_{1-2}N_0M_0$ patients flow cytometry can differ groups with 10-year DFS: $88 \pm 7\%$ – patients with diploid tumours and low part of proliferated ($S + G2 + M < 30\%$) cells; $59 \pm 15\%$ – patients with aneuploid non tetraploid tumours and low part of proliferated ($S + G2 + M < 30\%$) cells; $29 \pm 14\%$ – patients with aneuploid non tetraploid tumours and large part of proliferated ($S + G2 + M > 30\%$) cells.

DNA-flow cytometry parameters have the prognostic importance in BC.

499

POSTER

Breast cancer under age 35 – In what way should we treat the patients

A.Z. Jeziorski, J. Piekarski, J. Berner. *Medical University of Lodz, Dept. of Oncology, ul. Paderewskiego 4, 93509 Lodz, Poland*

Young age is obviously find as a risk factor which can deteriorate the prognosis in breast cancer patients. The aim of the study was to analyse the consecutive series of 77 patients up to 35 years of age operated in Clinical Oncology Unit in Lodz between 1977 and 1992 and compare this group of patients with 376 older patients. We estimated overall survival and relapse free survival in both groups. Log-rang test was in use. The effectiveness of the treatment in the aspect of overall survival was the same in both groups, disease free survival was slightly better in the group of older patients ($p = 0.049$) but only in the first 5 years and only in the N positive subgroup of patients. The results of the study do not stimulate us to treat young patients in the more aggressive way.

500

POSTER

Prognostic factors in patients with recurrent breast cancer following mastectomy

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Purpose: Optimal management of recurrent breast cancer disease is a matter of debate. The establishment of some prognostic variables may help to make decision about the therapy in these patients.

Methods: Between 1983 and 1991, 93 patients (median age 44 years, range: 20–80 years) who had loco-regional recurrence or distant metastasis following curative mastectomy + adjuvant chemotherapy and/or hormonal therapy, + adjuvant radiotherapy were treated. Menopausal status, the number of positive axillary lymph nodes (ALN) in diagnosis, relapse free survival (RFS), sites of relapse, number of metastatic sites and prior adjuvant therapies were reviewed to find out the prognostic factors following relapse.

Results: The median follow-up was 85 months (range: 64–132). The following patient characteristics were found significant with univariate analysis:

Patient Characteristics	Median Survival (months)	P
Premenopausal	53	
Postmenopausal	41	0.64
ALN 1–3	64	
ALN 4 and more	38	0.0002
RFS < 1 year	33	
RFS 1 and more year	55	0.0003
Soft tissue relapse	56	
Other sites relapse	38	0.0002
Metastasis site = 1	74	
Metastasis sites > 1	42	0.0001

When a multivariate analysis was performed, 4 and more positive axillary lymph nodes involvement and more than one metastatic sites were found significant. In this study, estrogen receptor status, histologic grade and other prognostic factors were not analyzed.

Conclusion: The results suggest that the number of positive ALN of initial disease have to be considered in addition to other prognostic factors in the patients with breast cancer following relapse.

501

POSTER

The use of p65 in generating the prognosis in female breast cancer

H. Niewiadomska, M. Stempien, M. Mirowski, A. Jeziorski. *Medical University of Lodz, Dept. of Oncology, ul. Paderewskiego 4, 93509 Lodz, Poland*

A 65 kDa tumour-associated phosphoprotein p65 has been isolated from a conditioned medium of the transplantable rat hepatocellular carcinoma as well as from MCF-7 human breast cancer cell lines. Paraffin-embedded tissue slides from 89 infiltrating ductal breast carcinomas, 20 cases of fibrocystic disease and 20 fibroadenoma were assessed immunohistochemically with the usage of monoclonal and polyclonal antibodies against human p65 antigen. In benign tumours only one case of fibrocystic disease with large epithelioplasia was p65 positive showing a cytoplasmatic reaction in some proliferating cells of ducts. The chi-square method showed no correlation between malignant tumour size and expression p65. A statistically significant

correlation ($p = 0.04$) was observed between expression p65 and a low grade I and II of malignancy according to Bloom and Richardson. Estimation of p65 antigen may be useful in the identification of precancerous changes and more differentiated ductal carcinoma of the breast. The results indicate the possibility for p65 to be helpful in the screening examinations of women who have a high risk of cancer development.

502

POSTER

Prognosis of the typical medullary carcinoma of the breast

A. Stelmach, K. Herman, J. Mituś. *Cancer Centre, Kraków, Poland*

Purpose: Medullary carcinoma is very rare type of breast cancer. It's suspected, that prognosis in typical medullary cancer greatly differs from other NOS types.

Methods: A study was carried out based on 52 women with typical medullary carcinoma treated by radical surgery; 17 women with involved axillary lymph nodes were irradiated postoperatively.

Results: Twelve patients were stage I, 35 stage II and 5 stage III TNM. 10-year survivals in these groups were 83.3%, 85.7%, 80.0% respectively. Pathological tumour size (pT) where tumours were under 2 cm was found in 12 patients, tumours from 2.1 to 4 cm in 34 patients, and tumours bigger than 4 cm in 6 patients. 10-year survival in these groups were 83.3%, 85.3%, and 83.3% respectively. Disease-free 10-year survival was noted in 84.6% of the patients. The only independent prognostic factor was the microscopical status of axillary lymph nodes: 97.1% patients without metastases survived 10 years disease free, compared to 58.8% patients with metastases. There was no significant effect of other clinical and histopathological factors.

Conclusion: The criteria defined by Ridolfi et al. are as before basic for the diagnosis of typical medullary carcinoma of the breast.

503

POSTER

R2: Index of biological aggressive breast cancer

M. Cherubini, P. Baxa, M. Sustersich, G. Mustacchi. *University Hospital of Cattinara (Trieste); Istituto di Clinica Chirurgica, Italy*

Purpose: indicators of biological aggressive breast cancers are taken into consideration, through the deepening of R2 (macroscopic recurrence after breast cancer therapy) biological effects.

Methods: 160 patients operated for breast carcinoma are considered and a comparison is performed with a subgroup of 44 R2, examined in a follow-up (1–6 years after operation).

Results: in the subgroup the disease free interval is on average 55 months. Recurrence is more often noted after mastectomy and increased in patients operated at advanced Stages (IV 80%; III 40%; II 22%; I 7%) and may have been caused by neoplastic vascular or lymphatic embolization. A wide surgical excision defines: ER/PR ratio, which results significantly different (12.7) in R2, compared to Stage I, II (range 4.44–4.86; $p < 0.01$) and III (5.12; $p < 0.03$). In Stage I, ER+ (estrogen receptors) predominance in G1–2 (histologic grade) is observed; in R2, ER+ reduction in G2–3. In R2, ER+PR+ and ER–PR– decrease and ER+PR– increase. The average survival rate from R2 appearance is 50 mo.

Conclusions: This study clearly shows the features of R2 biological aggressive breast cancer, which may represent initial widespread disease and is more frequent when the Stage at the diagnosis is more advanced, when the cells are more indifferntiated, when the age is lower, often after total mastectomy and when an adequate radiotherapy may not have been followed. The cause may be vascular or lymphatic neoplastic microembolism, often with different hormonal receptor characteristics (ER/PR ratio, different receptor phenotypes).

504

POSTER

Receptor findings and menstrual status at radical operations due to breast carcinoma

M. Kocić, M. Inić, M. Jušić, J. Pralica, V. Nikolić, B. Marjanović. *Institute for Oncology and Radiology of Serbia, Department of Surgery, Belgrade, Yugoslavia*

Purpose: Examination of significance between receptor findings and menstrual status at radical operations due to breast carcinoma.

Methods: In the period from 1.1.1988 until 31.3.1989. on our Institute we operated 596 radical mastectomy in I and II stadium of breast carcinoma. In 566 cases we analysed state of the hormonal tumor receptor. From total number 257 patients (45.65%) were in pre-menopause, and 309 (54.35%)

were in postmenopause. We assumed that menopause is starting in age of 55 years approximately, altho we have data for every single patient particularly. Status of receptors for ER and PGR were analysed in classical biochemical methods. Middle value is 51.42 and rang is from 1909–1960.

Results: From analysed 566 receptors status we have following results:

ER+ (≤ 10) = 219 (36.74%), ER– (> 10) = 117 (19.63%). (1)

In 43.96% status of ER receptors weren't examined (no data):

PRG+ (≤ 20) = 421 (70.64%), PRG– (> 20) = 175 (29.36%). (2)

Conclusion: We analyse hormonal dependence of tumor in regard of menstrual status, or age, which were taken as base, together with other prognostic factors, in order to choose kind of adjuvant therapies.

505

POSTER

Intratumoral beta-radiometry is an universal test of breast cancer (BC) activity

S.M. Portnoj, K.P. Laktionov, R.I. Gaboonia, V.P. Godin, S.V. Shiriaev. *N.N. Blokhin Cancer Research Centre RAMS, Moscow, Russia*

In 130 stage I–III BC patients before any treatment were investigated ^{32}P relative uptaking into primary tumor ($^{32}\text{PRUT}_1$). In 62 BC patients ^{32}P relative uptaking into residual tumor were detected after any treatment ($^{32}\text{PRUT}_2$). $^{32}\text{PRUT}$ -detecting was performed intratumorally by means of the needleform semiconductor beta-detector.

Low $^{32}\text{PRUT}_1$ level influenced on the actuarial disease free survival in BC stage I–II patients as a factor of good prognosis, and high and middle $^{32}\text{PRUT}_1$ levels – as a factor of poor one. 6-year disease free survival in first group was 90% and in second group – 50% ($p = 0.03338$).

In stage III BC patients after preoperative treatment $^{32}\text{PRUT}_2$ had significance as criterion of operability, 2-years actuarial survival without locoregional relapse in patients group with high $^{32}\text{PRUT}_2$ level was $31 \pm 18\%$, and in patients group with low $^{32}\text{PRUT}_2$ level – $96/8\%$ ($p < 0.01$).

33 stage I–IV BC patients had been treated with part effect and stabilisation. $^{32}\text{PRUT}_2$ was detected in residual tumor and 6 months later patients were re-evaluated by the WHO criteria. Mean $^{32}\text{PRUT}_2$ in patients groups were: complete remission – $103 \pm 13\%$, part effect – $269 \pm 36\%$, stabilisation – $580 \pm 260\%$, progression – $3138 \pm 843\%$ (all differences except "part effect" versus "stabilisation" are sufficient, $p < 0.01$).

So, level of the $^{32}\text{PRUT}$ has prognostic information in any clinical cases.

Friday, 2 October 1998

16:00-18:00

PARALLEL SESSION

Pathology

509

INVITED

Mammary mucin secretion: A modern revisitation and review

J.D. Davies. *Regional Breast Pathology Unit, University of Bristol, Southmead Hospital, Bristol BS10 5NB, UK*

Mucin secretion is well known in many forms of breast cancer. Despite surveys of benign breast tissue mucin conducted in Perugia 50 years ago, the findings have been largely ignored. In conjunction with the Mucin Research Group (head: Dr A T Corfield) at the University of Bristol an extensive re-examination of benign and malignant breast tissue has been undertaken using mRNA and immunohistochemical probes directed again the class-specific amino-acid tandem repeat domains. The eight currently sequenced distinct mucins (MUC1 to 7) display quite different patterns of expression. MUC1 (epithelial membrane antigen) shows increased expression in secretory breast and most carcinomas. MUC2 (and to a lesser degree MUC6) show enhanced expression in mucin-filled ducto-lubular units, including mucocoele-like lesions and mucinous carcinomas. MUC4 expression is limited to epithelium displaying secretory cytoplasmic vacuoles (including pregnancy, "adenomas of pregnancy", focal lactational change and a few, mostly better differentiated carcinomas). MUC7 is expressed in approximately 50% of breast carcinomas, and possibly showing positive correlation with tumour progression. MUC3, 5B, and 5AC were not detected in any functional or pathological breast conditions; conversely apocrine and