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Adjuvant ovarian ablation-standard therapy or field of contraversy

Ovarian ablation is the oldest form of endocrine treatment of breast cancer, and has been used for nearly 100 years. Its efficacy for palliative treatment in premenopausal, receptor positive metastatic breast cancer patients has been proven. On the other hand, despite 30 years of adjuvant trials, the benefit of ovarian ablation alone or in concern with chemotherapy and/or tamoxifen as an adjuvant therapy has not been clearly established. Individual trials of adjuvant ovarian ablation show trend towards the increased relapse-free survival, but rarely show a survival advantage. For the first time, the overview (meta) analysis of The Early Breast Cancer Trialists Colaborative Group (EBCTCG) which includes about 2000 women under 50 years of age showed that adjuvant ovarian ablation (surgical or by ovarian irradiation) significantly improved recurrence-free and overall survival and reduced the annual rates of recurrence and death by about 25%, the effects similar to that seen with adjuvant chemotherapy by indirect comparison. The benefits of adjuvant ovarian ablation plus chemotherapy appeared smaller, even in women with ER + disease compared with chemotherapy. Until recently, ovarian ablation was achieved by surgery or radiotherapy, but the irreversibility of ovarian ablation as a possible side effect has led to the increasing use of LH-RH agonists, as an alternative potentially reversible medical castration.

In National Cancer Institute of Serbia, ovarian irradiation as the only adjuvant therapy in premenopausal, low-risk, node positive (N=1-3), steroid receptor positive women with early breast cancer has been used for almost 15 years. The greatest benefit was achieved in women younger than 45, and in those with higher quantitative level of progesterone receptor. The routine use of ovarian ablation alone or combined with chemotherapy and/or tamoxifen or other hormonal agents to effect "total estrogen blockade", should await the results of further prospective controlled clinical trials.

Key words: *Ovarian ablation; Breast cancer; Adjuvant therapy*

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Neoadjuvant chemotherapy of breast cancer: indications within routine treatment

Neoadjuvant chemotherapy used as the initial therapy, is one of the modalities of locally advanced breast cancer treatment. It was recommended for routine approach in cases where the downstaging is a primary goal, to allow less aggressive or more effective local treatment. That means either to downstage the large inoperable primary tumors to allow radical surgery, or to downstage the large operable primaries, to allow the conservative surgery. The additional aim of neoadjuvant chemotherapy is the early treatment of micrometastatic disease. In this paper, the experience in the neoadjuvant chemotherapy of breast cancer in Gornji Milanovac Oncology Dispensary is presented. This modality of treatment was applied for the first time in 1998. Six patients aged 49-59 were treated. They had mostly locally advanced tumors in stage IIIb (T4b, N0, M0), or IIIa (T3, N2, M0), and all of them were postmenopausal. After the tumor biopsy and histological confirmation, patients were treated with three cycles of FAC chemotherapy regimen, and then the local clinical response was assessed: there were 4 near complete, and 2 partial remissions of a primary tumor. All patients were treated by radical mastectomy, and then three additional adjuvant chemotherapy cycles were applied. Our results, although in a small group of patients, confirmed that most patients with locally advanced breast cancer would respond to neoadjuvant chemotherapy.

Key words: *Breast cancer; Neoadjuvant chemotherapy*

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Adjuvant chemotherapy - standard regimens?

It is well known that non-antracycline and antracycline regimens (CMF and FAC/FEC or AC) are recommended for routine adjuvant chemotherapy of operable breast cancer (BC) patients (pts). However, the Consensus recommendations do not define exactly for which pts the non-antracycline regimen should be concerned, and for which the antracycline one. With the aim to analyze the criteria for the selection of chemotherapy regimen, data on the adjuvant chemotherapy in operable BC pts, treated in Oncology Dispensary in Kraljevo from 1995-1999, have been collected. In total, 76 consecutive pts were treated, either with CMF or with FAC chemotherapy. The selection of the regimen was individualized, according to the patient's risk, potential cardiac risk and social status (since the costs of Adriamycin, and occasionally of other drugs were at their own). The analysis of risk factors showed no difference either in tumor size (T1 vs. T2 vs. T3), nodal status (N0 vs. N+), or pathologic tumor grade (Grade 1-2 vs. Grade 3) between two groups of patients, treated with CMF and FAC, respectively. On the contrary, two groups differ significantly according to age and menopausal status: while CMF and FAC regimens were used in similar number of patients under 50 (23 and 24, respectively), patients older than 50 were mostly treated with CMF (26/29). Consequently, postmenopausal patients were treated with CMF more frequently, than premenopausal pts (24/27 vs. 22/43). In conclusion, it seems that the routine treatment policy, concerning the selection of adjuvant chemotherapy regimen, is influenced mostly by the patients' age, and thus, indirectly, by the potential toxicity of antracycline regimens.

Key words: *Breast cancer; Adjuvant chemotherapy; Chemotherapy regimen*

Meeting abstract
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Five-year analysis of adjuvant chemotherapy application in patients with breast cancer in oncologic center Zrenjanin

Four hundred and fifteen patients have been treated for breast cancer in Oncologic Center Zrenjanin between January 1, 1995- December 31, 1999. Two hundred and forty of them (57.8%) were treated with adjuvant chemotherapy. The aim of this study was to estimate the effectiveness of applied adjuvant chemotherapy. Analysis included patients treated during five-year interval. Forty-one patients died during the follow-up while for 2 patients we have no evidence. Median follow-up was 36 months, while median age was 57 . There were 71 premenopausal patients (29%) and 169 postmenopausal (70.5%). Positive hormone receptor status was revealed in 78 (32.5%) patients, 27 (11.6%) patients had negative hormone receptor status, while 134 (55.8%) patients had unknown receptore status. Adjuvant hormone therapy was most frequently applied alone (in 41.4%) or in combination with other chemotherapeutics. Relapse was revealed in 51 (21.2%) patients. Median value of disease-free period was 14 months. Complete estimated treatment with adjuvant chemotherapy was applied in 218 patients (90.8%), 22 patients (9.2%) have not received all series because of disease progression, 1 patient (0.5%) was unable to purchase suggested medications, while 14 (8.13%) patients were not treated with radiotherapy because of the delay of invitation. Twenty-eight patients (14.7%) obtained medications from the hospital resources, 69 (34.8) patients purchased medications on their own expenses, while 101 patient (51.5%) partially purchased medications on their own expenses. Total survival was 83%. Survival without evidence of disease was 61.6%. Analysing the group of patients with breast cancer who died, it was found that breast cancer was not the cause of death in 24.3% of patients. Although majority of patients purchased medications on their own expenses, planned adjuvant chemotherapy was applied in 99.5%. In patients who were not treated with radiotherapy in optimal period, other model of adjuvant chemotherapy was applied. Survival rate correlates with the results of other authors.

Key words: *Breast cancer; Adjuvant chemotherapy*

Meeting abstract
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The role of postoperative radiotherapy on disease control in breast cancer patients

Our aim was to estimate the role of postoperative radiotherapy (pRT) on disease free survival (DFS) and overall survival (OS) in operable breast cancer patients (pts). From 1992 to 1997, 247 pts had undergone radical mastectomy due to carcinoma of the breast, median age 54 years (min=30, max=69). Among them 125 pts (1st group) were treated with pRT and adjuvant chemotherapy +/- hormone therapy (CT +/- Ho) and 122 pts (2nd group) were treated only with adjuvant CT +/- Ho. Each group was analyzed for DFS, frequency of local or distant relapses, OS as well as significance of age, tumour size, nodal status and menstrual status. 5 years of DFS in the 1st group of pts was 50% versus 11% in the 2nd group while 5 years of OS was 66% versus 42% respectively. There was also significant difference in frequency of local and distant relapses in favour of the 1st group of pts (chi square test=14,382, p≤0,01 regarding local relapse, chi square test=10,285, p≤0,01 regarding distant relapses). Due to multivariate (Cox model analyzes) nodal status was the most significant prognostic factor on DFS and OS in the 1st group of pts, while nodal status and tumour size were equally significant prognostic factors on DFS and OS in the 2nd group of pts. Although pRT is considered to be a local therapy in operable breast cancer pts, from our results we found that good local control in those with less favourable prognostic factors (tumour size >3cm, and >4 positive axillary lymph nodes, regardless of age) combined with systemic therapy, results also in a good distant control of the disease and therefore gives better OS.

Key words: *Radiotherapy; Breast cancer; Overall survival*

Meeting abstract
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Haematological toxicity of concomitant adjuvant FAC chemotherapy and postoperative irradiation in operable breast cancer patients

The adjuvant chemotherapy (CT) and postoperative irradiation are well-established standard treatments for operable breast cancer (BC) patients (pts). However, the optimal timing of both treatments could be compromised, due to the possible increase of haematological toxicity of concomitant chemo- and radiotherapy, as a most common side effect. In the aim to get a better insight into this matter, a group of 28 operable BC pts, being treated at Oncology Dispensary in Užice from January 1998-September 2000, was analyzed in respect to the projected timing of adjuvant CT cycles. The subgroup of 15 pts received the adjuvant FAC chemotherapy alone, while 13 consecutive pts. were treated with the same adjuvant CT and concomitant postoperative irradiation. Subgroups were well balanced in respect to the age (median 47, both), menstrual status (12/15 and 10/13 were premenopausal, respectively), and nodal involvement (mostly N+, in both groups). Adjuvant ovarian irradiation was done in similar proportion of premenopausal pts (6/12 and 7/10, respectively). Haematological examination was done before every cycle of CT, and weekly, if cytopenia occurred. In the subgroup treated with concomitant CT and radiotherapy, a total of 11/78 (14%) cycles had to be delayed, mostly for a week, due to the leucopenia grade 2-3. In 3 pts. more than 1 cycle was delayed. In total, 7/13 pts experienced heamatological toxicity. In the subgroup treated with CT alone, only 2/106 (2%) cycles of CT had to be delayed, due to leucopenia grade 2. Yet in neither group, the adjuvant chemotherapy was ceased or other severe haematological disorders were noticed. In conclusion, our results suggest the increased haematological toxicity of concomitant adjuvant CT and postoperative irradiation. Although it did not cause severe haematological disorders, the delay of chemotherapy cycles might affect its efficacy.

Key words: *Haematological toxicity; Chemotherapy; Postoperative irradiation*

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Liver metastases of breast cancer, clinical presentation and the course of the disease

Clinical course of metastatic breast cancer is influenced by many factors, including the site of the involvement and the response to systemic treatment. Visceral metastases, especially those involving liver, are considered the most unfavorable. Twenty one patient with liver metastases of breast cancer were treated in Šabac Oncology Dispensary during the period from 1994-1999. Clinical presentation and the outcome of metastatic disease were analyzed in this paper. In this group of mostly postmenopausal patients, median age 58, the initial histology showed ductal invasive or lobular invasive breast cancer (14 and 6 pts, respectively). In 6/21 pts the liver involvement was found at diagnosis, while in others it was the part of the recurrent disease. In 8 pts. the liver was the only site of involvement, while in others it was associated with other localizations, mostly in bones. It was mostly about multiple metastases in liver, followed by hepatomegaly in 14/21, icterus in 12/21 and ascites in 9/21 pts. Abnormal enzymes were found: AST in 11/21, ALT in 9/21, AF in 17/21, Gamma GT in 14/21 pts, and abnormal total bilirubin in 15/21 pts. The patients were treated with chemotherapy, with or without endocrine therapy (13/21), or with endocrine therapy alone (6/21), while 2 pts did not receive any systemic treatment. Apart from 1 patient who lived longer than 16 months, the overall survival in this group of patients was rather short (range 2-8 months, median 4 months). Our results confirmed that the liver involvement was the unfavorable presentation of metastatic breast cancer, with poor prognosis. Therefore, the new more efficient treatment modalities should be explored.

Key words: *Breast carcinoma; Liver metastasis*

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Chemotherapy of liver metastases in breast cancer patients - is there a place for nihilism?

Diagnosis of liver metastases (LM) in breast cancer patients (pts) is a dire moment in the course of the disease due to very poor survival. Our aim was to assess how much the pts benefit from the chemotherapy (CT). From 1992 to 1997, 68 breast cancer pts were diagnosed to have LM, median age 50 (min=34, max=71) and were treated with CMF (30 pts) or FAC regime (38 pts). We analyzed time to progression (TTP) and we estimated benefit of CT according to survival. We also analyzed the influence of following prognostic factors: liver function test (LFT), single or multiple LM, CT naive or not pts and number of CT courses. Results: Among pts treated with FAC regime there was 5/38 (13%) complete responses (CR) and 1/38 (3%) partial responses (PR) while among those treated with CMF, 2/30 (7%) CR and 1/30 (3%) PR. There was not statistically significant difference in TTP with median TTP for FAC group of 7 months and for CMF of also 7 months. However, there was a significant survival advantage for pts treated with FAC regime (12, 32% survive 12 months) versus CMF (8% respectivly) - Wilcoxon test 4,122 $p<0,05$. Median survival was 12 months (FAC group) and 9, 28 months (CMF group). There was also statistically significant influence of LFT and number of CT courses, as well as CT naivness for TTP and survival. There is a modest benefit for breast cancer pts with LM treated with standard CT regimes. We find FAC regime to be superior to CMF for survival in this group of pts and should remain the first line treatment until some other regime proves to be better.

Key words: *Chemotherapy; Liver metastases; Breast cancer*

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The site of making therapeutic decisions in metastatic breast cancer patients

In this paper a comparison is made between the median survival of metastatic breast cancer patients, diagnosed and treated at Kruševac and those treated at the Oncology Institutions in Niš and Belgrade. The data were taken from patients' files in Oncology Dispensary in Kruševac. During the period from January 1995 - December 1999, breast cancer was diagnosed in 399 patients, and 31 (7,7%) of them were in clinical stage IV. There was one male, and 30 female patients. In this analysis 28 patients (median age 57) were included, 41% being pre-, 7% peri-, and 52% post-menopausal. Most of our patients had loco-regional advanced disease (T3 - 1, T4b - 18, T4d - 4, and N2 -21 pts.), while in 3 (11%) pts the primary tumor was small (T1 - 2 pts) or nodal status classified as N1. All patients had distant metastases, mostly in supraclavicular lymph nodes (7 pts, 25%), then in lungs (21%), liver (18%), bones (14%), while 6 patients (21%) had multiple involved sites. Initial treatment, according to the medical council decision, was performed in Kruševac in 23 (82%) pts, and at the Institute for Oncology and Radiology in Belgrade, in all other pts. The biopsy of skin, or primary tumor was done in 21 (75%) pts, the others were subjected to mastectomy (4 pts), or tumorectomy (3 pts). The found histology type of tumor was mostly ductal invasive (27 pts, or 96%), mostly of grade II (61%). The decision on further systemic treatment was made in Kruševac, Belgrade or Niš (in 9, 12 or 7, i.e. 32%, 43% or 25% pts, respectively). The decision was made in regional center Kruševac mostly for pts with visceral and multiple metastases, while pts with supraclavicular and bone involvement were mostly sent to two centers, equipped for radiotherapy. The average age of pts, treated in Kruševac was significantly higher ($p<0.01$) than of those treated elsewhere (67 vs. 52, respectively). The average overall survival (OS) in pts. treated in regional center was 11 months, and it was significantly lower compared to the OS of pts. not treated in Kruševac ($p<0.05$). The main reason was the shorter OS for all pts. with visceral involvement (12 months), which was similar for pts treated in Kruševac, and those treated in other centers (10 and 13 months, respectively), while the average OS in all other pts. was 22 months. These data suggest that the optimization of decision process can help to avoid unnecessary addressing the pts. to other oncology centers.

Key words: *Medical council; Breast cancer; Systemic therapy; Decision making*

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Medical therapy of breast cancer in a five-year period

The presentation of a five-year medical chemo-endocrine therapy of breast cancer in Oncology Dispensary Loznica:

Years	No pts.	Adj. th.	Syst. th.	Health Council
1995	31	14	17	23
1996	31	16	15	25
1997	43	28	15	32
1998	39	23	16	21
1999	54	27	27	35

Annual increase of breast cancer patients being treated with medical therapy is presented. In addition, the relative increase of premenopausal breast cancer patients was noted from 1995-1998.

Key words: *Chemotherapy; Breast cancer*

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First-line FAC chemotherapy in metastatic breast cancer patients: is it possible to define patients with most unfavorable and most favorable prognosis?

The goal of chemotherapy for metastatic breast cancer is to shrink the tumor and consecutively palliate the symptoms. This therapy is also expected to delay the disease progression and thus to prolong overall survival. Unfortunately, the patients in this stage of breast cancer cannot be cured using standard treatment. From June 1995 till November 1997 twenty-two patients with metastatic breast cancer were included in phase II study of the efficacy and toxicity of second-line Mitoxantrone - 5FU - Leucovorine for advanced breast cancer patients who failed previous FAC chemotherapy. Ninety-five advanced breast cancer patients entered screening phase receiving first-line FAC chemotherapy for the metastatic stage. Taking as a whole the results in this group do not differ from the literature data: CR and PR were achieved in 8/95 (8.5%) and 30/95 (31,5%), respectively. Considering those women with stable disease of more than 6 months duration, the clinical benefit was observed in 50/95 (52,5 %) patients. There are two major questions arising from our results: a) the definition of clinical anthracycline resistance and further therapy for this group of patients with unfavorable prognosis and b) the definition of the subgroup of advanced breast cancer patients with most favorable prognosis and relative long-term survival. Our phase II study results were again under the expected response rates: PR occurred in one woman (5%). On the contrary, five patients from this poor-prognostic group achieved long-term survival with the median duration of 40 months (range 37-52 months), which was quite unexpected. As all of them were given tamoxifen as endocrine maintenance therapy, one can conclude that they had hormone-sensitive disease; to support this most possible hypothesis, two of them whose steroid receptor contents were previously determined had high content either of ER, or PR in their primaries. However, we cannot rule out that in some patients the anthracycline-containing chemotherapy needs more cycles to show its effectiveness, which means that some patients in our study might have been erratically proclaimed as anthracycline-resistant. To address the second issue of this report, we separated those patients with the survival duration 36 months from the beginning of the metastatic phase. Excluding patients from the phase II study, there were 16 out of 73 patients with prolonged survival. There is a direct relationship between the response duration and survival that was expected. Another consistent similarity for majority of them was again tamoxifen, given after the cessation of FAC chemotherapy. Where do the answers to our two questions lie?

Maybe the primary tumor itself with various molecular markers (e.g. HER-2/neu, bcl-2, p53 and others) hides the secret of how to recognize the individual outcome of the disease, as well as the most effective therapy which means a cure for each breast cancer patient.

Key words: *Breast cancer; Systemic therapy; Antracycline regimen*

D. LAZAREVIĆ

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Overall survival in metastatic breast cancer: recurrent disease vs. disease diagnozed in Stage IV

Prognosis of metastatic breast cancer is influenced by many factors, including classic prognostic features (i.e. primary tumor and host characteristics), metastatic disease characteristics (i.e. site of involvement), treatment-related factors (i.e. response to systemic treatment) etc. With the aim to find out whether the outcome of the disease was different in patients with recurrent breast cancer, and those with metastatic breast cancer at diagnosis, the overall survival from the occurrence of metastatic spread was analyzed in a group of 112 breast cancer patients. They were treated in Oncology Dispensary in Čačak from 1990-1995. Patients were divided in three groups: the group treated previously for operable breast cancer, the other group treated previously for locally advanced breast cancer, and the third group diagnosed in metastatic stage of the disease. Median survival from the occurrence of metastatic disease was longer in patients with recurrent disease, and in those diagnosed in stage IV, than in those treated for locally advanced disease (1.92, 1.31 and 1.12 years, respectively). Our result suggests that the prognosis in metastatic breast cancer is complex. The influence of other prognostic factors remains to be elucidated.

Key words: *Prognosis; Overall survival; Metastatic breast cancer*

Meeting abstract
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Low-dose antracycline regimen of chemotherapy (AV) in palliation of metastatic breast cancer

The analyzis of the effect of low-dose antracycline regimen (AV: Adriamycine 50 mg and Vincrictine 1 mg/ every 21 day) included a group of 66 advanced breast cancer (BC) patients (pts), mostly postmenopausal, treated from 1990-1995 at the Institute for Oncology and Radiology of Serbia. The AV regimen was used as a first-line chemotherapy for metastatic BC. The aim of this paper is to present the influence of low-dose antracycline regimen on overall survival in metastatic BC pts. The found overall response rate (CR + PR) was 57%, with no relation to age. Toxicity was acceptable for the out-patients use: only 7 pts (11%) discontinued the treatment due to toxicity. However, 5/7 pts experienced cardiac toxicity. The overall survival was similar in responding pts (CR + PR), and those with disease stabilisation (SD), while pts who experienced disease progression (PD) lived significantly shorter. Our result suggested a benefit from a low-dose antracycline chemotherapy regimen in the palliation of metastatic BC. Although the currently used doses of Adriamycine are much higher for selected groups of patients, the low-dose regimen should be considered in elder pts, or in those who are in a substantial risk for cardiac toxicity.

Key words: *Breast cancer; Low-dose adriamycine; Systemic treatment*

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Management of breast cancer in district Zaječar in a five-year period

Breast cancer is the most common cancer in women from observed population: District Zaječar (72763 citizens). Breast cancer represents 22% of new diagnosed cancers with incidence rate of 40/100 000 per year. Diagnostic procedure, treatement, monitoring and survival rates investigated among 145 breast cancer patients (58 premenopausal). Data were collected from Cancer register and medical records in Oncology departement Medical center of Zaječar. Stage of cancer at the moment of diagnosis is analyzed according to pathology reports of both the tumor and the nodes. Patients were in IIa stage (27%), then in IIIb stage (22%), I stage (18%), IIb stage (17%), IIIa (7%) and IV stage (7%) and for 2 patients there were no data (1,3%). Most of these 145 women received more than one type of treatement with surgery at the very beginning : mastectomy with axillary dissection and ex tempore pathology examination (79 patients or 54 %). Adjuvant radiotherapies were performed in 75 patients (52%) and radiological castration in 12 patients (21% of premenopausal patients). Adjuvant chemotherapies were given in 121 patients (CMF in 48 and CAF in 73 patients). A type of treatement according to the stage of cancer and the age of patients is represented. A follow up after the beginning of treatment is 70 months and during this period of time 45 patients died (30%), 15 patients had metastatic disease and 76 were in complete remission. We reported a five-year survival and additional palliative therapy for metastatic disease. Our patients attend breast cancer in advanced stage of disease and there is no patient in 0 stage of disease. Surgical therapy was performed in General Hospital in Zaječar, radiotherapy in Kladovo and adjuvant chemotherapy, hormonotherapy and periodical examination in Oncology departement Zaječar according to decisions from Oncology centers from Kladovo, Niš and Belgrade.

Key words: *Breast carcinoma; Incidence; Treatment*

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Blood coagulation during adjuvant CMF chemotherapy in Stage II breast cancer patients

Cancer is often associated with abnormal activation of coagulation leading to a prothrombotic state. Increasing number of reports of life-threatening and sometimes fatal thromboembolic events following chemotherapy or hormonochemotherapy are of great concern. CMF provokes a hyprecoagulability. In plasma samples of 30 patients receiving CMF (schedule 1-5) for Stage II breast cancer, we evaluated: platelet count, fibrinogen, PT, aPTT, TT, antithrombin III (AT III), protein C (PC), thrombin-antithrombin complex (TAT) and D-dimer. All tests were performed immediately before starting therapy and after the first CMF cycle. None out of 30 patients in the stage II breast cancer developed thromboembolic complications. No statistically significant changes of platelet count, fibrinogen, PT, aPTT, TT and TAT were noted before and after the chemotherapy. Plasma protein C and AT-III were decreased during the chemotherapy. D-dimer was significantly higher after finishing the chemotherapy. In conclusion it appears that monitoring the stage II breast cancer patients with sophisticated coagulation tests during adjuvant CMF chemotherapy can not identify patients at high risk for thromboembolic events. Additional studies are required to determine the exact association between chemotherapy and thrombotic events.

Key words: *Breast cancer; CMF; Hypercoagulability*

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Breast cancer in Kraljevo area in 1995-1999 period

On the territory of Kraljevo town in 1995-1999 period, 216 new cases of breast cancer were registrated.The aim of this work was to analyze data obtained from patients registry such as: stage of disease at the time of making diagnosis, histopathology report, age, spread of disease, therapy, relapse and survival rate. Analyzing all these parameters we found that disease was revealed mostly in T2 stage followed by T4 stage. The number of new cases significantly increased in 1997. Patients were mostly in 5th ad 7th decade of their age. At the time of making diagnosis 54 patients were without regional or distant metastases while others had mostly involved regional lymph nodes and bone and skin metastases. In 67 cases diagnosis was made by biopsy, in 11 by tumorectomy, while 138 patients gained diagnoses after mastectomy. Chemotherapy and radiotherapy followed surgery or biopsy procedures as further treatment, and 24 patients were on regular control visits only. Relapse was registrated in 69 patients and 59 patients died. At the end we found that the number of new cases increased after the expanding educational measures, disease was revealed in early stages and number of women's control visits generally increased.

Key words: *Breast cancer; Epidemiology*

Meeting abstract
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The role of tamoxifen in the treatment of breast cancer metastatic disease - a case report

O.J., a female patient, 50 years old, postmenopausal, was operated on February 18, 1992 due to invasive ductal carcinoma of the left breast- intermediate grade. Preoperative staging was T2N1M0. Tumour size was 15mm, localised in upper lateral quadrant. Three of five examined lymph nodes were malignant with infiltration of surrounding adipose tissue. Status of hormone receptors were not known. Adjuvant chemotherapy was planned. Six series of chemotherapy (CMF protocol) with postoperative radiation therapy should have been applied. Chemotherapy was stopped after the second cycle, while radiation therapy has not even begun since CT examination revealed metastatic deposit in the left lobe of liver. Six series of CMF-triple protocol was continued. Stabilisation of the disease course was observed for seven months. Then FAC protocol with induction of hormonotherapy (Tamoxifen) was applied due to progression of the disease course. Twelve-month stabilisation was observed after which another metastatic lesion was detected in right liver lobe. FAC protocol was excluded and P(platinex)CMF protocol with continuation of Tamoxifen was applied. After three series of chemotherapy the patient rejected additional treatment due to significant side effects of medications and only therapy with tamoxifen was continued. The patient died on January 9, 2000, ninety-six months after the breast operation. Disease free period was 3 months. Survival with liver metastases was 93 months. Stabilisation with hormonotherapy was 56 months. Hormonotherapy has significant place in the treatment of parenchimal metastatic disease in patients with breast cancer. During the whole treatment no regression of liver metastatic disease was revealed, but stabilization has been maintained for 93 months, which is the longest stabilization correlated with the application of Tamoxifen.

Key words: *Breast cancer; Liver metastases; Tamoxifen*

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Influence of hormonotherapy in the treatment of liver metastatic disease in breast cancer - a case report

A female patient T.D., 57 years old, postmenopausal, with unknown status of hormone receptors was operated on November 2, 1995 due to right breast cancer-clinical T2N1M0. Pathohistological examination revealed ductal invasive carcinoma - intermedium grade. Tumor was centrally located, size 3x3 cm. Three lymph nodes were examined and all were malignant. Her postoperative treatment started with 6 series of adjuvant polychemotherapy (CMF protocol) with radiation therapy. Sixteen months later multiple liver metastatic disease was revealed after what FAC protocol has been applied. After 8 months of stabilization 6 series of P(platinex)CMF protocol was applied since progression of the disease course was evidenced. After 7 months of stabilization both progression of metastatic liver disease and new metastases on pleura were detected. Chemotherapy with 5-FU, Oncovin and tamoxifen was applied. Complete regression of pleural metastases and stabilization of liver involvement was maintained for 11 months after which progression of liver metastatic disease was revealed and hormonotherapy with Dugen began. Partial regression of liver metastatic process was followed for 11 months. The patient died on June 24, 2000. Total survival was 55 months. Disease-free interval was 16 months, while survival with liver metastases was 39 months. Stabilization with partial regression of neoplastic process was maintained for 21 months with the application of hormonotherapy. Long stabilization has more significant effect for the patient than short-term complete regressions.

Key words: *Breast cancer; Liver metastases; Hormonotherapy*

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Internal quality control of CA 15-3 tumor marker

The quality of analitical methods can be checked by analysing specimens of known concentration, measured values are compared to standard values. Standard values are given within lower and upper borders. The aim of this study is to show internal quality control of a CA 15-3 tumor marker and to determine the precission of the marker used in series. The immunoenzyme method (I M x) was used for determination of the CA 15-3 tumor marker, measurements were performed on autoanalyzer I M x, Abbott. ″Low″ and ″high″ commercial control tests were used (Abbott). Measurements were performed from 06.05.1997 to 20.10.2000. Measured concentration of the CA 15-3 are presented on control graphs. Measured values show that the ″low″ and ″high″ control tests are within two standard deviations for the period of 06.05.1997 till 20.10.2000. Using the ″low″ control test in determining the CA 15-3, the mean value of a tumor marker was 34.66 U/ml, SD 0.85, CV 2.41 %; using the ″high″ control test the mean value was 127.83 U/ml, SD 3.35, CV 2.62. Measured values of control concentration of the CA 15-3 were within two standard deviations, showing that control values were within control borders.

Key words: *Tumor marker; Internal quality control*