

**Materials and Methods:** A patient of breast cancer and viral hepatitis B carrier developed elevation of GOT, GPT after one cycle of CMF. The biopsy showed viral hepatitis. This was the first patient who developed reactivation of hepatitis after chemotherapy. Later on, in 1999 a patient of breast cancer developed drastic change of GOT up to 1430 U/mL, GPT up to 2140 U/mL, Bilirubin up to 7.3 mg% after chemotherapy. All these confirmed the importance of monitoring liver function test (LFT) during chemotherapy for patients of HBV carrier. Since then routine HBsAg was screened in every patient before received chemotherapy at SYSCC. During chemotherapy, liver function was followed periodically for HBV carrier. Once GOT, GPT elevated to over 100u/mL, HBV DNA and liver biopsy were performed.

**Results:** Among the patients who developed reactivation of hepatitis B, 18 were breast cancers. All 18 patients were proved by histology and HBV DNA. Some of the patients has also a liver histology of drug effect. All the hepatitis B were treated by lamivudin successfully and chemotherapy was resumed after improved liver function test and was completed in every patient safely.

**Conclusion:** For cancer treatment, it is necessary to be careful for hepatitis carrier, since reactivation of hepatitis B may result in fulminant course. Reactivation of hepatitis B can be treated safely with lamivudin if we carefully monitor the LFT change. After the control of hepatitis, the chemotherapy can be completed safely.

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#### Lymphedema of upper extremities after treatment for cancer of breast: incidence and risk factors analysis

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**Purpose:** Lymphedema is the most significant complication of the locoregional management of breast cancer. Therapeutic procedures such as lymph node dissection, and/or radiation therapy cause local damage of the axillary lymphatic system. The overall incidence of post-mastectomy lymphedema that dependent on the criteria and follow-up period is varied, but is about 15–20% in USA. The study wants to evaluate the incidence and risk factors of arm lymphedema in patients receiving surgical treatment for breast cancer in central Taiwan.

**Materials and Methods:** In 2002, we retrospectively analyzed 571 patients received treatment for breast cancer at Changhua Christian Hospital between Jan, 1994 and Dec, 2000. The arm lymphedema was defined as at least 2 cm difference in circumference compared with the untreated limb at measured points. In lymphedema patients, we calculated the circumference, calculation volume and edema ratio (=excess volume/normal side volume).

**Results:** In total 571 patients, 8.1% (46/573) patients met the criteria of lymphedema. In MRM group, the lymphedema incidence was 8.35% (40/479), 20.86% (29/139) in MRM with radiotherapy, 3.24% (11/340) in MRM without radiotherapy. In breast conserving group, the incidence was 7.23% (6/83), 9.23% (6/65) in BC with R/T, 0 (0/18) in BC without R/T. The only significant risk factor for lymphedema is radiation therapy esp high dose (>5000 cgy). The mean time to arm edema was 22.1(± 20.9) months.

**Conclusion:** Radiotherapy was the predominant risk factor for arm lymphedema in patients receiving surgical treatment for breast cancer. Further prospective study is necessary to determine the accurate incidence of arm lymphedema in patients with breast cancer.

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#### Changes in sensitivity related to sectioning the intercostobrachial nerve during axillary dissection for the carcinoma of the breast

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**Background:** Side-effects of axillary surgery, primarily those relating to changes in sensitivity (e.g. pain, anesthesia, hypo- and paresthesia in the axilla, numbness of the arm), appear due to section of the sensitive intercostobrachial nerve (IBN), and may be a cause of significant discomfort in patients treated surgically for the carcinoma of the breast. The advantage of preservation of IBN to diminish sensory symptoms, has been evaluated prospectively in this study.

**Material and Methods:** Ninety-four patients undergoing axillary dissection for the carcinoma of the breast, hospitalised and operated at the Department of Surgery of Institute of Oncology and Radiology of Serbia in Belgrade, in the period from April 2001 to August 2002, were recruited

to this study, and followed prospectively for the period of three months. The patients were divided into three groups, according to the surgical interventions of IBN: in first group, the nerve is preserved; in second, the main trunk is preserved and peripheral branches are divided; in third group, the nerve is sectioned. Clinical testing to evaluate changes in tactile sensitivity and pain, using standard neurological methods, were conducted during the immediate postoperative period (4–7 days), after one month and after three months from the surgery. A statistical analysis using chi-square test, factorial analysis and the means of percentage has been applied to these results.

**Results:** Out of ninety-four patients, IBN has been preserved in 35 cases, while in 20 patients only peripheral branches have been preserved and in 39 of them, nerve has been sectioned. The greatest changes in sensitivity were found in the group of patients with the section of nerve trunk. The less intensive alterations were presented in the group with preservation of peripheral branches of the nerve. The least presence of pain, numbness and paresthesia, although also being presented, has been reported in the group with the preservation of the nerve. The incidence, intensity and the lasting of these changes, significantly increase with sacrifice of IBN ( $p < 0.001$  by the chi-square test).

**Conclusions:** The preservation of IBN during the axillary surgery for the carcinoma of the breast, is strongly recommended in cases where the nerve is not involved by lymph nodes, and where this preservation does not compromise a control of the disease from oncological point of view.

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#### Angiosarcoma of the breast: a propos three cases

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**Background:** Angiosarcoma of the breast is rare, the overall prevalence being around 5 per 10,000. In the last two years, however, three breast angiosarcoma cases were diagnosed in the 2nd Department of Pathology, Semmelweis University Budapest. We call attention to the likely increase of its incidence and the caution necessary in the follow-up of patients undergoing breast conserving surgery and radiotherapy.

**Patients and Findings:** Case 1. A 67 years old female patient developed invasive ductal carcinoma in her left breast and underwent breast conserving surgery in 1992. She received radio- and chemotherapy. In 1996, she presented with upper extremity malignant melanoma, which was excised. In 2001 haemorrhagic skin lesions of the left breast occurred, but several cytological examinations failed to prove malignancy. In 2002, left mastectomy was decided for a large mass in the breast parenchyma. High grade angiosarcoma was diagnosed. Later, contralateral axillary and breast, lung and skin metastases developed. At present she is undergoing chemotherapy. Case 2. A 69 years old female patient underwent breast conserving surgery in 1993 for invasive ductal carcinoma of her right breast. The operation was followed by radio- and chemotherapy. In 2000, she was operated for a benign tumor of the left breast. In 2002 she presented with a mass in the right breast. Preoperative cytology suggested a mesenchymal tumor. Wide local excision was performed. The tumor proved to be a low grade angiosarcoma. In November, 2003, a mass was found in the right breast on control mammography. Fine needle aspiration cytology revealed the recurrence of the angiosarcoma. Case 3. A 84 years old female patient underwent breast conserving surgery and radiotherapy for invasive breast carcinoma in 1997. In 2003 left mastectomy was performed for a large, exulcerated tumor, which proved to be intermediate grade angiosarcoma originating from the skin of the left breast. She died 4 months following the operation, after haemorrhage from the recurrent angiosarcoma.

**Conclusion:** With the increasing frequency of breast conserving surgery, the incidence of secondary breast angiosarcoma is likely to increase proportionally. Both primary and secondary breast angiosarcomas are aggressive, with high metastatic potential. Early diagnosis and radical surgery may extend survival time. Effective postoperative therapy is still to be established.

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#### Changes to the axillary vein are associated with an increased risk of breast cancer-related lymphoedema

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**Aim:** This study aims to prospectively evaluate the effect of axillary node clearance (as part of breast cancer treatment) on the axillary vein, and to investigate associations between the changes observed and risk of developing lymphoedema.

**Methods:** A total of 70 women were studied prior to breast cancer surgery to include a Level II or Level III axillary clearance, and at 3 and 12 months post-operatively. Arm volume was calculated from sequential circumferential measurements. Doppler U/S was able to provide information