the long term experience in a prospective group of patients (pts) with stage I-II breast cancer treated by conservative surgery, external beam radiotherapy (EBR) and brachytherapy boost to the tumor bed by LDR or HDR implants. The aim of the study was to analyze the results obtained in terms of: local control, disease control, cosmesis and early and late side effects and to compare them with the results obtained witout boost.

Methods: 938 consecutive pts with stage I (494 pts) or II (444 pts) breast carcinoma were treated between 12/1981 and 03/2000, with conservative surgery and EBR (50.4Gy/28 fx/5.5 w) followed by LDR (637 pts) or HDR (301 pts) implants. Both groups were comparable in patients and treatments characteristics.

EBR dose was 50: 4 Gy to the breast in all patients and to the supraclavicular fossa if nodes were positive. Brachytherapy was given 2 or 3 w. after radiotherapy. LDR doses were 20 Gy for tumors without intraductal carcinoma and 1 cm or more margins (group 1); 25 Gy for tumors with intraductal component or 5-10 mm margins (group 2); and 30 Gy for tumors with extensive carcinoma in situ or margins <5 mm (group 3). HDR brachytherapy doses were calculated with the L-Q model, to be equivalent for early effects to those of LDR. Doses per fraction of 200-250 cGy at the 85% isodose line were administered, in 2-3 fr every day for 3-5 days. Total HDR dose was of 18 Gy for group 1 pts; 20 Gy for group 2 pts and 22 Gy for group 3 pts.No patient was lost for follow-up.

Results: All pts completed treatment. During the 20-year follow-up, there were 70 local recurrences;70 distant metastases and 22 deaths. Actuarial results at 20 years were: local control 90.4%; disease free survival 85.4%; and survival 97.4%. Cosmesis was good or excellent in 92.4% of the pts. 10 pts (6/291 (2%) for LDR and 4/284 (1.8%) for HDR) developed moderate or severe breast fibrosis. Treatment satisfied the patients expectatives in 93.9% of the LDR group and 97.2% of the HDR group.

Conclusions: Brachytherapy boost was a very effective treatment. The local control, disease free survival and survival compared favorably with the results reported in no-boost treated patients. The good results obtained made brachytherapy the treatment of choice to boost the tumor bed in breast cancer patients treated conservatively.

682 POSTER

Is a high number of uninvolved nodes in early breast cancer an indicator of poor outcome?

V. Vinh-Hung[1], G. Csemi[2], T. Burzykowski[3], J. Van de Steene[1], G. Storme[1]. [1] *Oncologisch Centrum, AZ-VUB, Radiotherapy, Jette, Belgium;* [2] *Bács-Kiskun County Hospital, Surgical Pathology, Kecskemét, Hungary;* [3] *Limburgs Universitair Centrum, Center for Statistics, Diepenbeek, Belgium*

Purpose: Camp et al recently hypothesized that a high number of uninvolved axillary nodes (nneg) in N0 breast cancer might be an indicator of poor prognosis (Cancer 2000;88:108). Is there supportive evidence from the SEER data? In N0 and N+?

Study Type: Retrospective cohort analysis.

Patients: women aged 40-69 from the SEER 9-registries 1988-1997, T1-T2 M0 breast cancer, who underwent axillary dissection with 4-35 nodes examined.

Methods: 1) descriptive analysis by 5-year survival (OS) estimates. 2) multivariate analysis by proportional hazards models.

Results: 1) N0 (37519 cases): OS with 4 nneg was 92% (88-95%, 95% confidence interval), with 34 nneg 93% (87-98%). N+ (16978 cases): OS with 0 nneg was 50% (44-56%), with 10 nneg 80% (77-83%), with 20 nneg 85% (81-89%), with 30 nneg 91% (82-100%). 2) N0: nneg's risk ratio (RR) was 0.990 (0.983-0.996) (RR<1 indicates improved survival with higher nneg). N+: RR was 0.970 (0.963-0.976).

Discussion: higher nneg was associated with improved or plateaued survival; no consistent association with poor outcome was found.

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Surgical treatment of chest wall radiation-induced injuries

J.L. Guimarães[1], M. Ribeiro[1], J. Pontes[1], J.M. Fernandes[2], G. Santos[2]. [1] *Instituto Português de Oncologia, Plastic Surgery - Surgical Oncology I, Porto, Portugal;* [2] *Instituto Português de oncologia, Surgical Oncology I, Porto, Portugal*

Introduction: Radiotherapy is a therapeutic modality frequently used in the treatment of breast cancer. Its acute effects are normally solved by conservative means, but as its action evolves over time, its long term effects can be shown by progressive atrophic lesions and new tumors. Treatment of these situations is the excision of the affected structures and reconstruction of the chest wall by well vascularised tissues, whish has not been submitted to radiotherapy.

Patients and Methods: Between January 1990 and December 2000, 43 women with radio-induced ulcers after mastectomy and radiotherapy have been submitted to surgical treatment. The mean age of these patients was 65,6 years and there were performed a total of 46 pedicled myocutaneous flaps. Our first choice was Latissimus Dorsi myocutaneous island flap, in its classic version or extended. As second choice, we used the TRAM flap, and, when it was possible, in these cases, we used the flap also to perform breast reconstruction.

Results: As post-operative immediate complications there was infection in 9 patients and partial loss of the flap in three patients (3/46).

As late complications there was the reappearance of fistulas in two patients.

Complete healing was achieved in all patients.

Conclusion: As all the patients were successfully treated, we conclude that our therapeutic strategy was convenient and safe and, at least, contributed significantly for a better quality of life of these patients.

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Axillary sentinel lymph node biopsy (SLNB) for breast cancer: attempt to standardize surgical technique

G. Péley[1], I. Sinkovics[2], J. Tóth[3], E. Farkas[4], I. Köves[5]. [1] *National Institute of Oncology, Surgery, Budapest, Hungary;* [2] *National Institute of Oncology, Nuclear Medicine, Budapest, Hungary;* [3] *National Institute of Oncology, Pathology, Budapest, Hungary;* [4] *National Institute of Oncology, Surgery, Budapest, Hungary;* [5] *National Institute of Oncolgy, Surgery, Budapest, Hungary*

This study was performed first to determine the accuracy of SLNB in breast cancer and second to elaborate a simple and easily reproducible technique. Factors affecting the success rate and the sensitivity of SLNB were also investigated.

Patients with clinically node negative breast cancer up to 5 cm in size were enrolled in this prospective feasibility study. SLNB was performed by the dual-agent injection technique.

A total of 110 patients underwent lymphoscintigraphy for SLNB between December 1997 and February 2000. Three consecutive groups of patients were defined according to the particle size of the colloid and the injection sites of the tracer and the dye and the time of surgery: A (30-80 nm, peritumoral colloid and periareolar dye, same day), B (31 patients) (200-600 nm, peritumoral colloid and dye, next day) and C (38 patients) (200-600 nm, subareolar colloid and peritumoral dye, next day). The mean number of SLNs per patients was 1,8 in every group. The success rates were 84%, 97% and 100% in groups A, B and C, respectively. The only factor that affected significantly the success rate was the learning process. The sensitivities were 79%, 86% and 94% in the same groups, respectively. The sensitivity was 94% in pT1 and 80% in pT2 tumors and while it was improved from 80% to 100% in pT1 tumors it was not changed (78% versus 81%) in pT2 tumors stratified by the learning curve.

SLNB with the dual-agent injection technique with subareolar injection of 99mTc labelled 200-600 nm particle size colloid on the day prior to surgery is a simple and easily reproducible technique with high sensitivity in pT1 breast cancer petients. In pT2 tumors the sensitivity was lower than in pT1 tumors, but this difference was statistically not significant.

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Method prevention of seroma formation after breast surgery

N. Anikousko[1], V.E. Cheshuk[1], I.A. Yaremchuk[3], O.I. Sidorchuk[1], V.V. Zaychuk[1], V.M. Drozdov[2]. [1] *National Medical University, Oncology, Kiev, Ukraine;* [2] *Kiev City Oncological Hospital, Surgery department, Kiev, Ukraine;* [3] *National Medical University, Surgery, Kiev, Ukraine*

Purpose: decreasing of seroma formation volume, decreasing of seroma expression and duration after breast cancer surgery utilizing electrocautery dissection.

The most common complication following after breast cancer surgery utilizing electrocautery (mastectomy) is seroma formations that worsen quality of patient's life and increasing in patient's day. Various methods utilizing for decreasing of seroma volume and duration: post-surgical drainage, pressure garment, sew of skin flap on etc.

We are proposing the method of prevention seroma formation by processing of surgical wound by 0,15% sterile solution of sorbent's suspension "Silliard-P"(Silicium dioxydatum colloidale) before suture.

Method: 78 patients were studied. 1-group patients underwent radical