cell lung cancer. Assessed was the impact of either treatment on the degree and duration of relief of tumor-related symptoms and on patient's performance status. Secondary endpoints included treatment side-effects, objective response and overall survival. One hundred patients were randomly assigned to the dose of 20 Gy/5x/5 days (Arm A) or 16 Gy/2x/8 days (Arm B). There were 90 men and 10 women aged between 47 and 79 (mean 66). Eighty four patients had locally advanced tumor and 16 patients had metastatic disease. Squamous cell carcinoma was diagnosed in 65 patients, adenocarcinoma – in 9 patients, large cell carcinoma – in 1 patient and unspecified non-small cell carcinoma – in 25 patients. Fifty five patients were assigned to Arm A and 45 – to Arm B. Ninety eight patients received assigned treatment whereas two patients died before the end of treatment. The final results of the study will be presented at the conference.

37.
MULTICENTER, RANDOMIZED STUDY ASSESSING THE IMPACT OF AMIFOSTINE ON NORMAL TISSUE RADIATION TOLERANCE DURING HEAD AND NECK CANCER RADIOTHERAPY

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A prospective, randomized multicenter study was conducted to assess the value of amifostine (Ethyol®) as a radioprotectant in head and neck cancer radiotherapy. The aim of the study was to evaluate the impact of the addition of daily amifostine (150 mg/m2) on the degree of early (mucositis, dysphagia, xerostomia) and late (mucosal, cutaneous, salivary gland, mandible and spinal cord) radiation reactions. Assessed were also patients' quality of life, local control and overall survival. Sixty two patients from five Polish institutions were randomly assigned to radiotherapy alone (Arm A - 28 patients) or radiotherapy + amifostine (Arm B – 34 patients). There were 43 men and 19 women. Primary tumor was located in the oral cavity (27 patients), oropharynx (25 patients), nasopharynx (2 patients) and larynx/hypopharynx (8 patients). In 43 patients radiotherapy was used as the sole modality of treatment and 19 patients were irradiated postoperatively. The side effects of amifostine were manageable. In 6 patients amifostine infusion had to be temporarily stopped due to hypotension and in 5 patients its administration was permanently terminated due to hypotension, nausea and vomiting, septicemia or fever and visual disturbances. The early results of the study, focusing on early radiation reactions, will be presented at the conference.

38.
THE OWN EXPERIENCE IN MONITORING THE LATE RADIATION REACTION OF CRITICUAL TISSUES IN HEAD AND NECK REGION

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Purpose: The estimation of scoring system SOMA-LENT in classification the late radiation toxicity in patients with squamous cell cancer irradiated in H&N region.

Material and methods: The material includes 97 patients with oral cavity, pharyngeal and supraglottic cancer $T_{2-4}N_{0-1}$ irradited by conventional method (18 patients), continous accelerated irradiation CAIR (42 patients) and concomitant boost CB (37 patients). Total dose was in range 66-74 Gy. The late radiation toxicity was evaluated by SOMA-LENT system for pharyngeal and oral cavity mucosal membrane, skin, larynx, salivary glands, spinal cord. The estimation was done every 6 months after completing of radiotherapy. In statistical analysis the values were normalisated to maximal intensity of all symptoms in the scale.

Results: The intensity of late radiation toxicity for mucosal membrane was increasing between 12^{th}-18^{th} month after radiotherapy and next decreased from 24 after irradiation. For skin the intensity of late radiation reaction increased to 24 months after treatment. For larynx we noticed two peaks of late radiation toxicity: between 18^{th}-24^{th} month and about 54 month after irradiation. The intensity of late radiation effect

for salivary glands increased to 18 month and next diminished to 60 months. For spinal cord there was observed significant progression of intensity late toxicity (mild functional) during second year after irradiation.

Conclusions:

1. SOMA-LENT scale seems to be adequate in the clinical practice for the estimation of late radiation toxicity of H&N region tissues.
2. Ongoing study has preliminary nature and is being continued.

39.
PULSED DOSE RATE BRACHYTHERAPY – DESCRIBING OF A METHOD AND A REVIEW OF CLINICAL APPLICATIONS

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Introduction: Pulsed Dose Rate (PDR) treatment is a new brachytherapy modality that combines physical adventages of high-dose-rate (HDR) technology (isodose optimization, radiation safety) with the radiobiological adventages of low-dose-rate (LDR) brachytherapy.

Pulsed brachytherapy consists of using a stronger radiation source than for LDR brachytherapy and is giving a senes of short exposures of 10 to 30 minutes in every hour to approximately the same total dose in the same overall as with the LDR. Modern afterloading equipment offers some advantages over intersitial or intracavitary insertion of separate needles, tubes, seeds or wires. Isodose volumes in tissue can be created flexibly by a combination of careful placement of the catheter and adjustment of the dwell times of the computerized stepping source. Automatic removal of the radiation sources into a shielded safe eliminates radiation exposures to staff and visitors. Radiation exposure is also eliminated to the staff who formerly loaded and unloaded a multiplicity of radioactive sources into the catheters, ovoids, tubes etc.

Material and methods: This retrospective study based on summarized clinical investigations analyses the feasibility, differences between methods of brachytherapy and preliminary oncologic results of PDR brachytherapy.

Since July 2000 15 patients were treated in Greatpoland Cancer Center using PDR brachytherapy. They were 10 patients with recurrent brain malignant glioma, 2 with recurrent nasopharyngeal cancer, and patients with lip cancer, recurrent breast cancer and recurrent salivary gland cancer. Only patient with lip cancer was treated radically. Nucletron PDR unit with 1 Ci source and PLATO planning system were used.

Results: Short time of observation doesn't allow to draw a radical conclusions. On the ground of literature and preliminary own results it seems that PDR brachytherapy is save and efficient method of treatment. The most important complication was a local infection in place of implanted catheter. In some cases (for example in patients with recurrent malignant glioma after teletherapy) PDR brachytherapy perhaps could be a treatment of choice.

40.
COMPARISION OF TWO ACCELERATED RADIOTHERAPY REGIMENS IN MANAGEMENT OF LOCALLY ADVANCED NON-SMALL CELL LUNG CANCER (NSCLC) – HYPERFRACTIONATED CONVENTIONAL ACCELERATED RADIOTHERAPY (RAHIP) AND ACCELERATED CONFORMAL RADIOTHERAPY WITH CONCURRENT BOOST (RT-BOOST)

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Background: Repopulation during radiation therapy may compromise the results of the treatment of NSCLC. In spite of the data showing an improvement of therapeutic ratio with shortening of the total treatment time, there is no univoque way of doing it. Current study was conducted to compare two different regimens of accelerated radiotherapy.

Material/Methods: From March 1999 to November 2000 forty patients with stage III NSCLC were included. Twenty-eight pts. (70%) received 3-4 cycles of induction chemotherapy (cis-platinum, vepeside). Twenty-six p. were treated according to RAHIP schema, 14 pts. according to RT-BOOST schedule. RAHIP