OXYGENATION STATUS IN PRIMARY SQUAMOUS CELL CARCINOMAS OF HEAD AND NECK


Department of Radiation Oncology
1Department of ENT surgery, Technische Universität München, Klinikum rechts der Isar, 81675 München, Germany

45 patients with primary head and neck tumors were investigated pretherapeutically. In 30 patients the tumors were located at the floor of the mouth, 8 at the tongue or the tonsil. In these cases PO2 measurements were performed in general anesthesia during endoscopic procedure. In 15 patients large neck nodes (N2/N3) were investigated pretherapeutically and during split course radiochemotherapy. In general, the median PO2 distribution ranged between 2.4 and 46.6 mmHg and showed marked tumor to tumor heterogeneity. The follow up investigations during split course radiochemotherapy (n = 15) showed a significant increase of the median PO2 after the pause. The observed changes of tumor oxygenation during therapy will be discussed in detail with regard to their clinical relevance.

HYPERTHERMIA-ENHANCED EFFECTIVENESS OF CISPLATIN IN UNTREATED VERSUS IRRADIATED RAT SOLID TUMOURS

C. van Breugel, R. C. Rietbroek, J.B.A. Kipp, P.J.M. Bakker

1Department of Radiotherapy
2Medical Oncology, Academic Medical Centre, PO Box 2270, 1100 DE Amsterdam, The Netherlands

Hypothermia (HT) enhances cytotoxicity of cisplatin (CDDP). If this enhancement is different in untreated versus irradiated tumours is not known. Therefore this animal study investigates the efficacy of combined CDDP and HT in untreated tumours compared to tumours regrowing after irradiation.

Pieces of R-1 rhabdomyosarcoma were subcutaneously implanted in the hind legs of Wag/Ry rats. After irradiation the tumours regrew significantly larger TGD than CDDP alone (11.6 and 7.4 days respectively; p = 0.0002), while HT alone showed a 1-day TGD. Preliminary results in irradiated tumours indicate that CDDP + HT renders a similar TGD as in untreated tumours, although the TGD after CDDP + HT was not significantly different from CDDP alone.

Our findings show that HT enhances the effectiveness of CDDP in R-1 tumours. Untreated tumours probably respond similar to CDDP + HT as compared to irradiated tumours.

CONTINUOUS VS. SPLIT-COURSE IRRADIATION FOR LUNG CANCER. IMMUNOLOGICAL IMPLICATIONS

Lj. Vlahovic-Dekic, N. Stanjevic-Bakic, M. Debic, O. Prin

Institute for Oncology and Radiology of Serbia, Institute of Military Medical Academy, 11000 Beograd, Yugoslavia

The therapeutic irradiation for lung cancer causes profound disturbances of host’s general immunocompetence, the cellular immunodepression being the dominant finding. It is thought that the split-course technique holds certain advantage over the continuous irradiation, since the former includes a period of 4 weeks between two courses, thus allowing the lymphopoietic system to recover to a certain degree. In this report, we compared the radiotherapy–due alterations of several cellular immunity parameters (the number and function of total T cells, activated T cells (the cells of monocyte/macrophage lineage), immediately after the completion of either continuous (n = 13) or split course-irradiated (n = 12) lung cancer patients. All patients had received the total dose of 60 Gy. Both therapeutic techniques caused alterations of the parameters tested: the significant decrease of the total and active T cells and their lymphoproliferative response, while the phagocytic activity and the number of mononuclear phagocytes were increased, the latter being affected to a lesser extent in split-course-treated patients. Our results suggest that both techniques have similar immunodepressant effect on the cellular immunity of lung cancer patients.

SOFT TISSUE SARCOMAS

S. Delaloge, C. Le Pechoux, J.C. Buzas, F. Fontaine

1Department of Radiation Oncology
2Department of Statistics, IGR, Villejuif, France

Between January 1984 and December 1993, 119 adult patients (68 males and 51 females, median age 42.5 years) were treated at our institute for localised sarcoma of extravisceral soft tissue, by maximal conservative surgery followed by adjuvant radiation therapy. 30% had previously undergone surgery and relapsed. Sites affected were the extremities (63.5%), trunk wall (13%), retroperitoneum (9%) and head and neck (4%). Predominant histologies were MPH (27%) and Synovial sarcoma (19%). 85% of tumors were grade 2 or 3. Thirty-seven patients (31%) received chemotherapy. In 75% of the cases, radiation therapy was performed using standard techniques and doses of at least 45 Gy. Bi-fractionated radiotherapy (dose 45 Gy) was used for patients treated between 1989 and 1992 (25%).

Treatment evaluation was performed on 1st March, 1995. Median follow-up is 66 months. 24% of the patients relapsed locally, and 47%