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## PUBLICATION

# Chemoimmunotherapy with weekly cisplatin and etoposide plus S.C. rIL-2 plus oral medroxyprogesterone acetate (MPA) in stage IIIB-IV NSCLC: Preliminary results on clinical response and on immunologic assessment

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**Purpose:** MPA is widely used in oncology both in the treatment of hormone-related cancers and as supportive therapy in anorexia/cachexia syndrome (ACS), but conclusive data are not yet available to explain its anticachectic effect. Several cytokines, mainly interleukin (IL)-1, IL-2, IL-6 and tumor necrosis factor  $\alpha$  (TNF $\alpha$ ), are involved in the pathogenesis of ACS. In a previous study (Eur J Cancer, 1996 in press) we reported the effect of MPA on peripheral blood mononuclear cells (PBMC) from 10 cancer patients in advanced stage of disease (6 head and neck, 2 colon, 1 lung NSCLC and 1 ovary). Our study provided evidence that MPA is able to hinder the activity of some cytokines, such as IL-1 $\beta$ , IL-6 and TNF $\alpha$ , which have a key role in the pathogenesis of ACS by inhibiting their production and/or release. These experimental results prompted us to perform a phase II open clinical study of chemoimmunotherapy treatment of stage IIIB-IV inoperable NSCLC.

**Methods:** The treatment plan consisted of cisplatin (50 mg/m<sup>2</sup> i.v.) and etoposide (100 mg/m<sup>2</sup> i.v.), combination administered on day 1 weekly for 6 cycles, plus recombinant Interleukin-2 (rIL-2) 1.8 MIU s.c. from day 2 to 7 weekly for 6 cycles, plus MPA 1000 mg/daily beginning 7 days before the chemotherapeutic treatment and during all treatment period (6 weeks). Twenty-three patients (M/F 19/4) with NSCLC were enrolled, 14 of whom (mean age 65.2 years, range 52-74; 6 stage IIIB, 8 stage IV) were evaluable for response and 17 for toxicity.

**Results and Conclusion:** There were 7% CR, 21% PR (OR 28%), 36% SD and 36% PD. The toxicity was acceptable: 3 patients were withdrawn from study for hematologic (Grade 3 anemia) and 1 for renal (Grade 2) toxicity. An immunological study carried out on 9 of these patients (2 stage IIIB and 7 stage IV) showed that PBMC proliferative response to PHA, anti-CD3 monoclonal antibody or rIL-2 of patients didn't change significantly after the planned chemoimmunotherapy treatment compared to pretreatment values. Similarly, the serum levels of cytokines IL-1 $\beta$ , IL-2, IL-6, IL-10, TNF $\alpha$  and IFN $\gamma$  and the production in culture of the same cytokines by PHA-stimulated PBMC of patients did not show any difference after treatment as compared to pretreatment values (only IL-2 production was significantly higher after treatment compared to values before treatment). *Work supported by C.N.R., Rome, A.P. "Clinical Applications of Oncological Research", Contract No. 96.00588.PF39.*

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# A phase II trial of radiochemotherapy with ifosfamide/mesna in patients with unresectable non small cell lung cancer (NSCLC)

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Radiotherapy with a dose of 60-70 Gy is the standard treatment of medically or technically inoperable non metastasised NSCLC. In a phase I study the feasibility of a combination regime consisting in radiotherapy and a chemotherapy with ifosfamide was already established. The purpose of the ongoing phase II trial is to investigate the efficacy and toxicity of the multimodal treatment.

The radiotherapy consisted of a total dose of 60 Gy with a fractionation of 2 Gy/day 5 times weekly. Additionally ifosfamide was applied in week 1 and 5 of the radiotherapy at a dosage of 1500 mg/m<sup>2</sup>/day (5 days/24 h infusion). Mesna was applied at a dosage of 20% of the ifosfamide dose.

17 patients with NSCLC stage III were treated. In 11 of the 17 pts treatment was completed according to protocol. In 6 patients non therapy related complications occurred and treatment was modified.

No treatment modification because of esophagitis was necessary. A leucopenia WHO grade 3 and 4 occurred in 7/17 pts. Thrombocytopenia was not a clinical problem. Radiation pneumonitis RTGO grade II was observed in 1 pt. In all pts who completed the treatment a tumor regression of 80% and more was observed.

Our phase II study indicates that simultaneous radiochemotherapy of NSCLC with ifosfamide/mesna leads to a good local tumor control with an acceptable hematological toxicity.

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# Phase II trial of i.v. navelbine (NVB) and cisplatin (CDDP) in inoperable locally advanced or disseminated NSCLC

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New drugs with promising activity have been identified for NSCLC treatment, and NVB has already been shown to increase the survival rate in randomised trials. Large European and American multicentre studies have shown that the results of NVB + CDDP combination had a statistically superior survival, compared with standard therapy (Le Chevalier/JCO 1994). Based on these results, this study has been conducted in South Africa in order to test this combination in our patients (pts): NVB 30 mg/m<sup>2</sup> D1 + D8 + CDDP 100 mg/m<sup>2</sup> D1, every 21 days, 6 cycles max. Thirty previously untreated pts were included from 09/95 to 12/96. To date, 24 pts are evaluable for response, 27 for tolerance, with the following characteristics: median age 55.8 y (42-68), 26 M/4 F; PS/O-1 = 77%, 2 = 23%; 56% squam. cell carcinoma, 28% adenoca, 16% large cell carcinoma. Stage IIIA = 17.2%, IIIB = 20.7%, IV = 62.1%. 116 courses were administered in total. The overall response rate was 41.5%: 1 CR/9 PR (95 CI 21.8-61.2%), 1 further patient obtained an objective response but was not available for confirmation. WHO G3/4 neutropenia in 9pts with only 3 G3 infections; 19% of cycles with WHO G3 nausea/vomiting, WHO G2-3 constipation in 8.7% of cycles (2 pts G3). Two pts presented G2 peripheral neuropathy. WHO G2/3 alopecia in 22% of pts, 2 episodes of G3 local phlebitis. Other side effects were uncommon. These preliminary results confirm that the combination of NVB + CDDP have major antitumour activity in NSCLC with a manageable tolerance.

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## PUBLICATION

# Gemcitabine and cisplatin for advanced non-small cell lung cancer (NSCLC)

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The aim of this phase II study was to evaluate gemcitabine in combination with cisplatin in chemonaive patients (pts) with locally advanced or metastatic NSCLC at a higher gemcitabine dose. Gemcitabine 1200 mg/m<sup>2</sup> was given on days 1, 8 and 15 of each 28 day cycle. Cisplatin 100 mg/m<sup>2</sup> was given on day 15 before gemcitabine infusion. 23 consecutive pts were entered between January and October 1996: median age 60 years (range 39-73); 22 males and 1 female; performance status 0-2; histology: adenocarcinoma in 9 pts, squamous in 7 pts and large cell in 7 pts. 9 pts had stage IIIB and 14 pts stage IV. To date, 21 of 23 pts are evaluable. There were 1 CR and 5 PR (for an overall response rate of 28, 7%: 95% CI 14-50), 11 pts with stable disease and 4 pts with progressive disease. The median duration of response was 5.5 months and median survival have not yet been reached. The most important toxicity (WHO graded) over 93 cycles was: neutropenia 32.2% of the cycles at grades 1-2; anemia 58% grades 1-2; thrombocytopenia 19.3% grades 1-2; nausea and vomiting 21.5% grade 1. This preliminary findings suggest that the combination of gemcitabine and cisplatin has promising activity in advanced NSCLC with mild to moderate toxicity.

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## PUBLICATION

# A pilot study of VIME-C/P or VIME, in patients with small cell lung cancer

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**Purpose:** To study the efficacy and toxicity of an intensive chemotherapy regimen containing VP16 (V) + ifosfamide (I) + Mesna (M) + Epirubicin (E) +/- alternating cisplatin (C) - carboplatin (P). 27 pts, with histologically verified small cell lung cancer, 14 pts. with LD and 13 with ED, were treated. Median age 66 y.

**Methods:** Pts. were treated with V 80 mg/sqm d 1-3, I 2000 mg/sqm d1-3, Mesna 400 mg/sqm d, 4, 8 h d1-3, E 60 mg/sqm d 1, alternating C 100 mg/sqm or P 300 mg/sqm d 1, q 3 w. 15 pts. received only VIME without platinum combination due to age or poor performance. Pts. in CR after 3 courses continued treatment for a total of 6 courses, pts. with LD not in CR after 3 courses received RT and thereafter 3 further courses of