Medroxyprogesterone Acetate for Lung Cancer

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OKUYAMA, S., MISHINA, H. and NUNOKAWA, T. Medroxyprogesterone Acetate for Lung Cancer. Tohoku J. Exp. Med., 1990, 161(2), 153-154 — A 70-year-old man having severe ischemic heart diseases developed bilateral, duplicate lung cancer of large cell and squamous cell types. Chemoimmunotherapy consisting of carmofur, picibanil inhalation, i.m. sizofilan, and peroral bestatin was started, and 3 months later, peroral medroxyprogesterone acetate was added. The tumor regressed, and the patient survived more than 34 months. This type of non-aggressive regimen may thus be useful for tumors other than adenocarcinomas, too.

In order to exploit its possible anti-cancer effect, medroxyprogesterone acetate (MPA) was administered at a high dosage on a man of 70 years of age who had been found to have bilateral, duplicate lung cancer: large cell carcinoma in rB6 (right hilar mass), and squamous cell carcinoma in 1B3 (not visible on the chest x-ray) (Fig. 1). Neither surgery nor radiotherapy was thought feasible. Chemoimmunotherapy consisting of carmofur (100 mg, b.i.d.), picibanil inhalation (2.5 U), i.m. sizofilan (10 mg twice a week), and peroral bestatin (90 mg, q.i.d. for 2 months, then, 30 mg once a day) was started on him in April 1987. When the tumor exacerbated 3 months later, peroral medroxyprogesterone acetate (MPA) was added at a high dosage of 400 mg t.i.d. As coughs improved, the right hilar mass regressed (Fig. 1). He was active until March 1989 when he developed cerebral infarction. MPA was immediately discontinued. In their unirradiated control of 152 cases, 50% death rate occurred in the 5th month of observation, 90% by the end of the first year, and the last expired at the end of the second year (Kanno and Ito 1969). The patient survived to the 34th month of MPA without any clinical and radiological signs of exacerbation or cachexia, far beyond the control. MPA may thus be effective in the control of lung cancer, too, although a prolonged administration, not longer than 20 months, may be mandatory. This seems to be the first report of successful treatment of lung cancer with a mild combination of MPA, bestatin and carmofur (Tagle et al. 1985). This regimen would induce apoptotic cell kill directly (Kerr and Searle 1980) as cancer cells may express hormonal receptors as the result of dedifferentiation along the line of evolution of animal life (Chaudiuri et al. 1982; Mattern et al. 1985; Okuyama and Mishina 1990) and/or cell loss indirectly via redifferentiation: carmofur interferes with cell multiplication, bestatin modifies cancer cell biology, and MPA puts forth these modified cells to differentiation (Okuyama et al. 1985).
Fig. 1. Radiographic follow-up of duplicate lung cancer treated with medroxyprogesterone acetate (MPA) along with carmofur, bestatin, picibanil and sizofilan. A: At start of MPA (July 27, 1987). A large right hilar mass shadow accompanied by collateral abnormalities. B: Fifteen months later (October 17, 1988). Tumor shadows were not to be seen. No signs and symptoms of cachexia at the 34th month yet. Cell loss via differentiation of cancer cells as the result of the bestatin-hormone synergism was thought probable (Okuyama et al. 1985).

References