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Combination Chemotherapy of Malignant Mesothelioma with Cyclophosphamide, Adriamycin and Vincristine

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Although rare (2 per million per year), malignant mesotheliomas have recently attracted attention due to their association with asbestos exposure [1]. Patients most often present with advanced disease after 6–8 months of symptoms, and traditionally have been difficult to treat, with 70% of the patients dying within 1 year after diagnosis [2]. Surgery is the standard therapy for tumors that are still resectable, but most patients are not curable surgically, particularly since as many as 47% of autopsy cases have distant metastasis [4]. Although high doses of radiation and immunotherapy have been reported as potentially useful modes of treatment, most of the recent studies have been directed towards designing effective chemotherapy regimens [2, 3, 5]. In this report we will present eight patients treated with cyclophosphamide, adriamycin, and vincristine for malignant mesothelioma.

From January 1976 to May 1979, we followed eight patients with tissue-diagnosed mesothelioma. Seven patients were male and one female, and the age range was 47–64 years. Four had a known history of asbestos exposure. Three patients received combination chemotherapy as the only mode of treatment following biopsy of their unresectable tumors, while the remaining five had been previously treated surgically or with radiotherapy. Two patients had been given a trial of 5-FU alone prior to institution of the three-drug regimen. All patients were symptomatic with recurrent disease. All received at least three cycles of therapy (cyclophosphamide 750–1,000 mg/m^2, adriamycin 40 mg/m^2, vincristine 1 mg/m^2), the cycles being 3–4 weeks apart, and all three drugs being given IV on the same day. Response was assessed after three cycles of chemotherapy. Although standardized criteria for assessment of response are difficult to establish in this disease, two of the eight patients experienced subjective and objective improvement (tumor shrinkage less than 50%), five had no change, and one progressed while receiving chemotherapy. All but two eventually failed and progressed to death. The durations of the improvement seen in two patients were 5 months and 2 months. Neither of these patients had received previous radiation or chemotherapy. No major toxicity was encountered. One patient consistently required hospitalization due to nausea and vomiting following chemotherapy, but there were no other drug-related hospitalizations or deaths.

The results may be comparable to those of single-agent therapy with adriamycin or cyclophosphamide. There was difficulty in assessing objective response accurately, due to the lack of clearly measurable tumors in most patients even when significant symptoms were present. 'Tumor regression' may be a more suitable way of defining response in this disease, as few mesotheliomas can be accurately measured. Cooperative studies are needed to evaluate treatment regimens for this rare neoplasm.

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References

1. Cutler SJ, Young JL (1975) Third National Cancer Survey: Incidence data. Natl Cancer Inst Monogr 41:442
2. Legha SS, Muggia FM (1977a) Pleural mesothelioma: Clinical features and therapeutic implications. Ann Intern Med 87:613
3. Legha SS, Muggia FM (1977b) Therapeutic approaches in malignant mesothelioma. Cancer Treat Rev 4:13
4. Roberts GH (1976) Distant visceral metastases in pleural mesothelioma. Br J Dis Chest 70:246
5. Sone S, Tsubura E (1978) Mesothelioma and local immunotherapy. Ann Intern Med 88:575

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