

Letters

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Resection of a Solitary Brain Metastasis in a Patient with Small Cell Lung Cancer — Long-term Survival

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A 59 YEAR old female patient presented in December 1988 with a mass in the upper lobe of her right lung and mediastinal adenopathy. She underwent a bronchoscopy, which was normal, followed by a mediastinoscopy and node biopsy. These were positive for small cell carcinoma (SCLC) of the lung. Staging investigations, including a bone scan and liver ultrasound, were negative for metastatic disease. She was treated with 6 cycles of etoposide, doxorubicin and vincristine and had a complete clinical response to chemotherapy. This was followed by a course of mediastinal irradiation (50 Gy over 5 weeks) which was completed in July 1989.

In July 1992 (36 months after completing therapy), she presented with a 6 week history of confusion and an unsteady gait. The chest radiograph showed no evidence of malignancy, but a computerised tomogram of the brain showed a left frontal tumour. She underwent a left frontal craniotomy with macroscopic total excision of the tumour. She subsequently had a complete improvement in her neurological symptoms. The histology revealed metastatic small cell lung cancer from her primary chest disease. She was treated with a course of postoperative whole head irradiation to a dose of 20 Gy in 5 daily fractions without further chemotherapy. She remains well and clear of disease at follow-up in September 1994, 27 months after cranial surgery.

Brain metastases occur frequently in patients with small cell carcinoma of the lung. They are present at the initial diagnosis (synchronous metastases) in approximately 10% of patients, and develop during the course of the disease (metachronous metastases) in a further 20% of patients [1]. In patients with SCLC who survive 2 years, brain metastases develop in 58% of cases [2].

The standard treatment for brain metastases from SCLC is corticosteroids and cranial irradiation. This results in symptom improvement in approximately 50% of patients and a median

survival of 4–7 months [3, 4]. Patients who present with cranial metastases may also be treated palliatively with chemotherapy alone [5]. Patients' median survival and the response rate of their brain metastases, which have not had prior exposure to chemotherapy, is similar to patients with metastases elsewhere [5].

Cranial surgery can be expected to improve the local control of a solitary brain metastasis (SBM). Cranial surgery, for patients with a SBM and non-small cell lung cancer (NSCLC), has been reported to result in symptom improvement, prolonged survival and cure in some cases [6–8]. In a prospective randomised trial of resection plus radiation compared with needle biopsy and irradiation, the median survival rate was 40 and 15 weeks and the duration of functional independence 38 and 8 weeks, respectively [7]. Control of the primary disease is the most important prognostic factor [7, 8].

Local control of the primary disease is of value in prolonging survival in patients with SCLC. Surgical removal of the primary lung disease in patients with SCLC without nodal metastases is associated with a high 5 year survival rate of 48% [9]. The expectation of an inevitable rapid dissemination of disease in all patients with SCLC and brain metastases is not justified. For example, the median survival for patients with SCLC and metastases limited to the brain is reported as similar to patients with limited disease alone [10]. However, the patients were treated without cranial surgery and there were no long-term survivors [10].

The patient reported above, with SCLC histologically and clinically, in terms of her response to chemotherapy, improved symptomatically and has had a prolonged survival after resection of a SBM followed by a course of cranial irradiation. As in patients with NSCLC, selected patients with SCLC, who have local control of their chest disease, will benefit from local control of a SBM by cranial surgery.

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