Surgery and high-dose methotrexate (MTX) chemotherapy for solitary primary CNS lymphoma (PCNSL)

Background Until recently, treatment of primary CNS lymphoma (PCNSL) consisted of cranial radiotherapy (RT) and corticosteroids. The addition of methotrexate (MTX)-based chemotherapy to RT has improved median survival from 12-18 months to over 40 months, but late neurological toxicity is a significant problem, especially in older patients. Efficacious but less neurotoxic therapy need to be developed. Here, we present three cases of solitary PCNSL treated with surgery and high-dose MTX chemotherapy without irradiation.

Methods and Results Three patients (two women; 40 yr and 55 yr, one man; 23 yr) had solitary enhancing mass in right frontal, left parietal, and left occipital area, respectively. The tumors were removed totally and showed pathologic findings of diffuse large B cell type malignant lymphoma. Within 2 weeks after surgery, MTX (3.5 g/m2) was given intravenously on day 1, day 10, day 20, day 50, day 80, day 110, and then every 3 months with leucovorin rescue. Corticosteroids were not included in this protocol. No significant toxicity was observed during the treatment. All three patients are alive (34, 24, and 5 months after diagnosis) with perfect performance scale and without any complication.

Conclusion Surgical excision and adjuvant high-dose MTX chemotherapy may be an alternative approach for the treatment of solitary PCNSL.