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Effect of Lymphocytapheresis on Steroid-Resistant Patients with Polymyositis

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Patients with polymyositis (PM) are usually treated with steroids. However, some patients are known to be resistant to steroid treatment, and some patients should not be treated with steroids, for example, those who with diabetes mellitus or steroid myopathy. Considering that PM is reported to be caused by a disorder of cellular autoimmunity,[1] we attempted to treat such patients with lymphocytapheresis (LCP).

Patients and Methods

Patient 1 (Fig. 1a) is a 74-year-old female who exhibited muscle weakness and bulbar symptoms in 1991, and who was diagnosed with PM based on a muscle biopsy at a local hospital. Oral prednisolone (PSL, 60 mg/day) was effective, and muscle weakness and the serum CPK level were improved. However, on tapering the dose of PSL to 10 mg/day, muscle weakness increased again with normal CPK. An increased dose of PSL to 30 mg/day was not effective and steroid myopathy was suspected. Tapering off PSL was transiently effective, but a few months later, muscle weakness progressed and the serum CPK level became abnormal. Patient 2 (Fig. 1b) is a 59-year-old male who was diagnosed with PM by muscle biopsy in 1988. PSL 60 mg/day was effective and the dose was gradually tapered. However, muscle weakness progressed and the serum CPK level increased to 2,308 IU/liter when PSL was tapered to 5 mg/day. Although the dose was increased to 30 mg/day, muscle weakness was not improved and the patient was diagnosed with diabetes mellitus.

Both cases were difficult to treat with PSL, and LCP was performed 6 times in total, treating 3,000 ml of blood/session, using an immunoadsorptive column, Cellsorba (180 ml; Asahi Medical).

Results (Fig. 2)

Five LCP treatments slightly or moderately improved muscle weakness, although the effect continued for only a few months at the longest. After 4 LCP sessions, the serum CPK level and OKT4 decreased. OKT8 increased slightly after every LCP. The OKT4/8 ratio and IL-2 production decreased after 5 LCP treatments. Leu11 showed no significant change.

Discussion

The effects of LCP have been reported in patients with rheumatoid arthritis and multiple sclerosis. For patients with PM, Valbonesi et al[2] reported that LCP using the centrifugation method combined with plasmapheresis was effective. However, the evaluation of LCP in PM patients has not been established and steroid therapy is still the first-choice treatment. In this study, an immunoadsorptive column was used and found to be effective. Although the effect is not as significant as with steroid therapy, this choice of treatment should be useful in patients who are resistant to steroid therapy or those who have steroid myopathy and diabetes mellitus.

References

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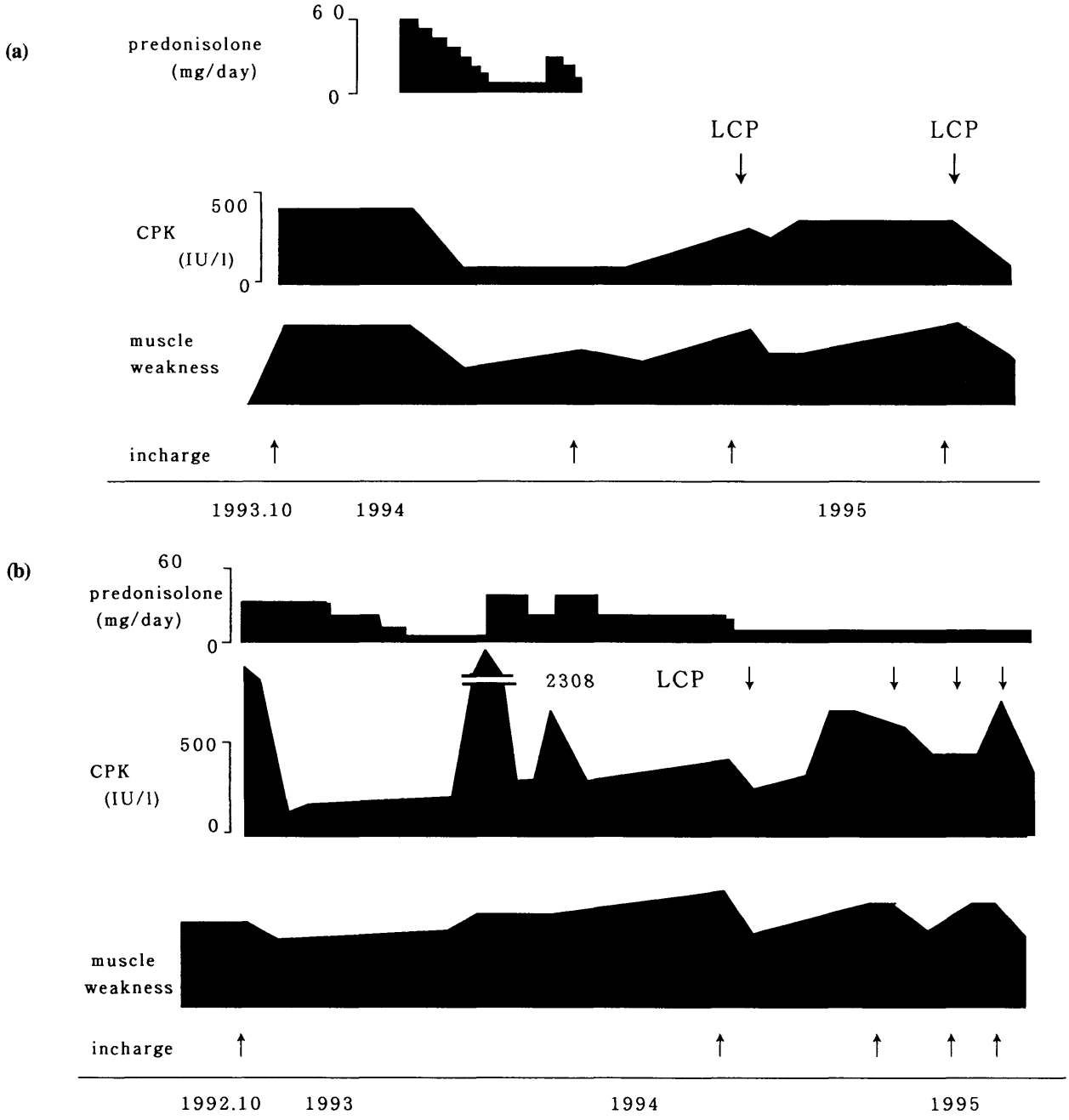

Fig. 1 Clinical courses. a, patient 1; b, patient 2.

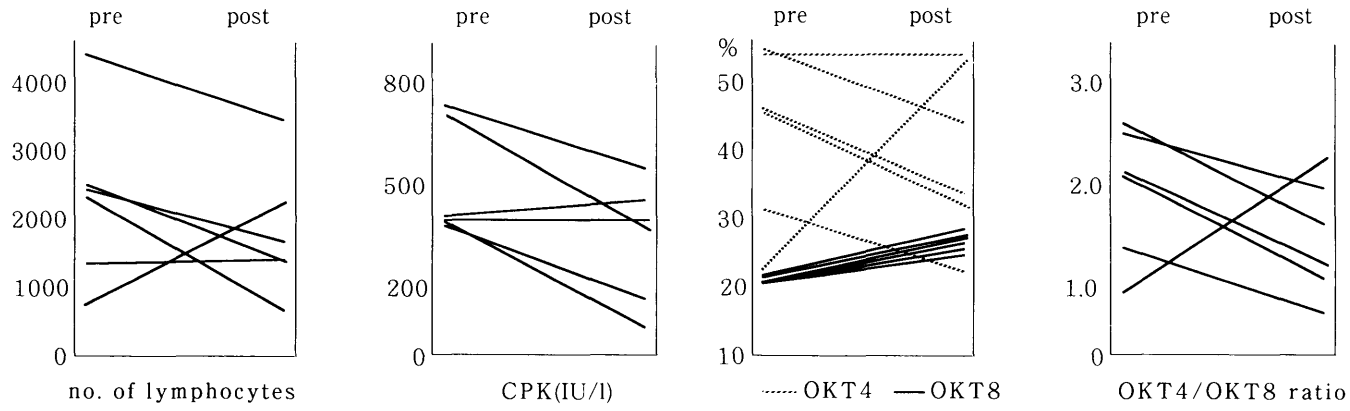

Fig. 2 Changes in laboratory data.