Lymphopenic effect of carbamazepine in a patient with chronic lymphocytic leukemia.

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Source

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Abstract

OBJECTIVE:

To report a dramatic and reproducible suppressive effect of carbamazepine on circulating lymphocytes in an elderly woman with chronic lymphocytic leukemia.

CASE SUMMARY:

An elderly woman taking phenytoin for a stroke-associated seizure disorder had lymphocyte count of 28,800 x 10(6) cells/L. Speculating an unusual lymphadenopathic effect of the phenytoin therapy, carbamazepine therapy was substituted. After 15 weeks of carbamazepine treatment, the lymphocyte count declined to 3200 x 10(6) cells/L. Because of severe diarrhea, carbamazepine therapy was stopped and phenytoin therapy was reinstituted. At the end of 4 months of phenytoin treatment, the lymphocyte count had increased to 23,200 x 10(6) cells/L. Phenytoin therapy was discontinued and carbamazepine therapy was begun. The lymphocyte count decreased to 10,700 x 10(6) cells/L. Severe diarrhea recurred and phenytoin treatment was reinstituted. Over 12 days the lymphocyte count increased to 28,900 x 10(6) cells/L. Phenytoin therapy was stopped and valproic acid therapy was started. The lymphocyte count continued to increase during valproic acid therapy, reaching a peak of 114,300 x 10(6) cells/L.

DISCUSSION:
In this patient with chronic lymphocytic leukemia, carbamazepine therapy had a significant and reproducible lymphopenic effect that was readily reversible upon discontinuation of the drug. Unfortunately, this effect was associated with severe diarrhea, preventing further attempts at exploiting this potentially beneficial action.

**CONCLUSIONS:**

Carbamazepine had a reproducible suppressive effect on lymphocyte counts in an elderly patient with chronic lymphocytic leukemia. This unique observation raises the possibility that carbamazepine therapy may have a useful effect in patients with chronic lymphocytic leukemia.

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