

## Relapsed lymphoma presenting neurological signs in 4 dogs

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**Signalment:** A Fox terrier(6-year-old, castrated male), a Afghan Hound(4-year-old, intact female), a Miniature Pinscher(9-year-old, intact female), and a Maltese(3-year-old, intact female) were referred for vomiting, diarrhea, anorexia, weight loss, swelling of superficial lymph nodes and were diagnosed as multicentric lymphoma staging IV to V.

**Results:** LCHOP(L-asparaginase, cyclophosphamide, vincristine, doxorubicin, prednisolone) protocol are performed. When LCHOP were administered 4 patients, all dogs achieved complete remission. During the LCHOP chemotherapy, lymphoma had relapsed and tried reinduction with the same protocol. In the event LCHOP had failed again with presenting neurological signs. Therefore, DMAC (dexamethasone, actinomycin D, cytosine arabinoside, melphalan), the rescue therapy had considered and attempted for 2 of 4.

**Clinical relevance:** In relapsed lymphoma, first line chemotherapy was often failed. When we have to considering rescue chemotherapy, especially presenting neurological signs considered CNS type of lymphoma, it is worth attempting protocols including the drugs which go through the blood-brain barrier.

**Key words:** DMAC protocol, neurological signs, refractory lymphoma

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