A 50-year-old woman with recently diagnosed stage IV diffuse large B-cell lymphoma had been started on combination chemotherapy. One month later, she presented with a history of progressive neurological symptoms characterized by left hemiparesis and right facial nerve palsy. A manual cell count on a cerebrospinal fluid (CSF) sample revealed a white cell count of $0.006 \times 10^9/L$. The white cells had the appearance of malignant lymphocytes. CSF protein was 1.78 g/L (range, 0-0.4 g/L).

A diagnosis of lymphomatous meningitis was made and liposomal cytarabine (DepoCyte) was administered intrathecally. Two weeks later, clinical improvement was noted and further DepoCyte was administered. On that occasion, the CSF white cell count was $0.08 \times 10^9/L$. This was an unexpected finding given the clinical improvement. Repeated examination of the CSF revealed that the “white cells” were DepoCyte particles rather than malignant lymphocytes. These particles were not visible on cytospin preparations, either when CSF was spun alone or when it was resuspended in albumin, suggesting that the particles were too fragile to remain intact during cytospin preparation.

Intrathecal DepoCyte is composed of cytarabine held within aqueous chambers and encapsulated by lipid bi-layers. Use of this sustained-release formulation reduces the number of intrathecal injections required. It is important to recognize these particles as spurious elevation of CSF white cell counts, rather than evidence of progressive disease.

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Spurious pleocytosis