

Letter to the editors

High dose etoposide does not cause peripheral neuropathy

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Sir, Etoposide has been reported to cause peripheral nerve damage in experimental animals [1] and in humans [2, 3, 4]. The data incriminating etoposide as a neurotoxic agent are weak, and in an attempt to evaluate any such neurotoxicity, nerve conduction studies were performed in patients before and after treatment with high-dose etoposide.

Nine patients with small cell lung cancer were studied, six of whom were treated with etoposide 2400 mg/m² and three with etoposide 1400 mg/m² and cyclophosphamide 100 mg/kg body weight. A detailed neurological examination and nerve conduction studies were performed both before and 3–5 weeks after treatment.

No patient had any neurological impairment detected clinically before or after treatment. Three patients had a

mild axonal neuropathy prior to treatment, attributed to previous vincristine treatment in one and to a heavy alcohol intake in two (Table 1). In the eight patients studied after treatment, either the nerve conduction data were normal or they showed no deterioration from pretreatment values (Table 1).

Although a relatively small number of patients were studied, the dose of etoposide was high, and evidence of peripheral nerve damage might have been expected if etoposide were genuinely a neurotoxic agent. There are conflicting reports on whether etoposide enhances the neurotoxicity of vincristine [3, 5]. This study did not address that question directly, but provided evidence that etoposide is not a neurotoxic agent which can be used with confidence, even in the presence of pre-existing nerve damage.

Table 1. Nerve conduction data in patients treated with high dose etoposide

Patient	Sensory nerve action potential						Motor nerve velocities (m/s)	
	Before treatment			After treatment			Before treatment	After treatment
	Amplitude (μV)	L. T. (ms)	L. P. (ms)	Amplitude (μV)	L. T. (ms)	L. P. (ms)		
1 ^a	5.5	2.5	3.1	5.4	2.5	3.1	46.6	48.0
2 ^a	14.6	2.0	2.5	9.0	2.3	3.0	63.0	57.0
3 ^a	2.0	2.8	4.2	1.5	2.6	3.1	51.0	50.0
4 ^a	14.1	2.5	2.8	12.7	2.6	3.2	50.0	50.0
5 ^a		N. R.		9.1	2.5	3.2	N. R.	59.0
6 ^a	4.1	2.9	3.3	7.0	3.2	3.8	42.0	42.0
7 ^b	8.4	2.5	3.2	8.2	2.4	3.0	57.2	58.1
8 ^b	11.9	2.3	3.1	11.4	2.3	3.0	54.1	53.5
9 ^b		N. R.					51.7	
Normal	7–16	2.2–3.0	2.5–3.3				49–69 m/s	

L. T., latency to take-off; L. P., latency to peak

^a Received etoposide 2400 mg/m²

^b Received etoposide 1400 mg/m² and cyclophosphamide 100 mg/kg body weight

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