

Bilateral vocal fold paralysis following treatment with vincristine

Dear Sirs,

We would like to bring to the attention of your readers this rare complication of the chemotherapeutic agent vincristine.

Bilateral vocal fold paralysis is a rare condition of diverse aetiology, with some patients requiring tracheostomy. We recently treated a 40-year-old man with acute lymphoblastic leukaemia who received chemotherapy containing vincristine. The patient received four weekly intravenous doses of 2 mg (1.4 mg/m²), along with daily oral prednisolone (60 mg/m²) and weekly intravenous daunorubicin (60 mg/m²). Four weeks after commencing on vincristine, the patient developed dysphonia and biphasic stridor and was found to have a bilateral vocal fold paralysis. A CT scan of the chest, mediastinum, neck and skull base failed to reveal any local pathology and, over the course of the following week, the vocal fold paralysis resolved spontaneously.

Vincristine is an alkaloid derived from the periwinkle plant, *Cantharanthus rosea* (*Vinca rosea*).¹ The neurotoxic effects of vinca alkaloids were recognized shortly after they were introduced.² Vincristine is more potent therapeutically than vinblastine but also more neurotoxic. These drugs bind to the cell microtubule system and can affect axoplasmic flow and the ability of neurones to conduct.³ Histological examination of biopsy and post-mortem materials has also shown primary axonal degeneration in nervous tissue with vincristine neuropathy.^{3,4}

The neurotoxic effect usually occurs after prolonged use and is usually dose-related.^{5–7} Legha¹ found that susceptibility to vincristine toxicity was greater in older patients, although Postma *et al.*⁸ found no association with age. Donaghy⁹ found that neurotoxicity developed at lower doses in patients with hepatic abnormalities. Other cranial neurotoxic effects of vincristine have been well documented and include bilateral sensorineural hearing loss¹⁰ and bilateral facial nerve palsy.^{11,12}

Laryngeal nerve paralysis is a rare but well recognized complication of vincristine therapy and ENT surgeons need to be aware of this side effect – while vocal fold

paralysis may suggest disease progression, the malignancy may be responding well.

Yours faithfully

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