



G14 First Report of Fatal Outcome by Accidental Intrathecal Injection of Vindesine

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The goal of this presentation is to describe the first case of fatal accidental intrathecal injection of vindesine.

Patients who are treated for cancer are exposed to risks including mistaken doses or routes of administration of toxic agents. The authors describe a case of the accidental intrathecal administration of vindesine which resulted in a fatal outcome. Pathologic findings of the central nervous system are reported and compared to the literature. Medical responsibility is also examined.

History: This 25-year-old woman had stage III non-Hodgkins lymphoma with clinical manifestations including asthenia. Lymphomatous cells were present in the cerebrospinal fluid (CSF), but neurologic function was reportedly good. Therapy included systemic vindesine and intrathecal administration of methotrexate and methylprednisolone. Vindesine, which should only be injected intravenously, was accidentally injected intrathecally. Prior to removal of the needle, a first washing of the CSF was performed. The woman was then transferred to the neurosurgical department to drain and wash the CSF. Her clinical course was slowly progressive over 6 weeks resulting in death. On the first week she suffered from leg pain with decrease in motor activity, and distal paresthesia and sensory loss occurred. On the second week, lower extremity paralysis occurred followed by upper extremity paralysis. Ascending sensory and motor dysfunction were observed. Her consciousness level began to decline and confusion progressed to lethargy. On the fourth week she was comatose and respiratory arrest occurred 2 weeks later; she died 6 weeks after the intrathecal injection of the vindesine. An autopsy was performed and included spinal cord examination by a pathologist.

Autopsy and Discussion: Autopsy was performed 2 days after death. The terminal event was pulmonary edema. Two fibrotic masses filling the upper mediastinum and infiltrated by lymphocytes were thought to represent residual tumor. The brain weighed 1250 g and was edematous. The microscopic findings in the spinal cord will be described.

Vindesine, a widely used anti-tumor agent, binds tightly to microtubules including mitotic spindle cell tubules and neurotubules. Experimental intrathecal administration of vincristine or vinblastine produces striking neuronal changes, creating vast aggregates of neurofilaments and crystalline masses possibly composed of neurotubules with the crystals appearing within 30 minutes of direct exposure but disappearing by 8 days. Neurotoxicity of vindesine has the same physiopathology. Some cases of accidental injection of vincristine have been reported. No case involving vindesine has been previously reported. The clinical, autopsy, and microscopic findings in this case are compared with others.

There is no recognized antidote to vindesine neurotoxicity leaving the clinician few therapeutic options. Immediate attempts to remove the toxin seem the most rational approach at present but limited experience in these cases indicates that piecemeal CSF drainage or exchange is not significant in preventing vindesine effects. In this new case, fatal ascending clinical progression could not be avoided.

Vindesine, Intrathecal, Death