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Reply to Cleveland and Gelfand

To the Editor—We thank Dr Cleveland and Dr Gelfand [1] for their reply to our recent article [2]. Our patient had received vincristine as part of the UKALL XII protocol, which should be administered on days 1, 8, 15, and 22 as part of the Phase 1 induction [3]. However, she was Philadelphia chromosome negative, and there was a slight variation in the protocol, in that she received vincristine only on days 1 and 8 (days 4 and 11 from admission, respectively). She was admitted to intensive care on day 38 from admission when the linezolid was started. She noted a visual disturbance on day 54 from admission, which was 43 days after the last dose of vincristine but only 16 days after the linezolid was commenced.

The neurotoxicity of vincristine is well recognized [4]. The cases of vincristine-associated optic neuropathy that are reported in the English language seemed to have developed after several doses of vincristine, administered over several months [5–7]. There is one case in which optic neuropathy developed after a single dose of vincristine [8]. However, in all these cases, the onset ranged from 6 to 21 days. Although it is possible that vincristine rather than linezolid could have caused our patient’s optic neuropathy, we felt that possibility was unlikely, given the timing of onset.

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Legionella as a Cause of Hyperpyrexia

To the Editor—A recent article by Assimacopoulos et al [1] notes that Staphylococcus aureus infection may cause extreme pyrexia (temperature, >41.7°C). These authors are correct in noting that hyperpyrexia secondary to infectious causes is uncommon. The authors did not discuss other infectious causes of hyperpyrexia in their case report. A patient who was recently admitted to our medical center with extreme, protracted hyperpyrexia illustrated the important lesson that other infectious agents, such as Legionella pneumophila, may also cause hyperpyrexia. L. pneumophila, first identified at an American Legion convention in Philadelphia in 1976, is an important cause of community-acquired pneumonia with high fever [2], as well as other illnesses that present with hyperpyrexia alone, such as Pontiac fever and culture-negative endocarditis [3]. It is well documented that Legionella species can cause high fever [4–6].

A 63-year-old man was admitted to the Durham Veterans Affairs Hospital with a 4-day history of fever and confusion. His temperature at the time of admission was 40.0°C. The patient denied cough, dysuria, hemoptysis, or diarrhea. His medical history was significant for alcohol abuse, and he reported that his last drink was 4 days before admission. Findings on chest radiograph were normal. Computed tomographic imaging of his head showed no acute process, and lumbar puncture revealed normal cerebrospinal fluid. Empirical therapy with vancomycin, ampicillin, ceftriaxone, and acyclovir was begun. His fever was treated with nonsteroidal antiinflammatory agents and acetaminophen, but hyperpyrexia persisted. When his temperature reached 41°C, he was transferred to the intensive care unit, where cooling blankets, in addition to antipyretic therapy, were used. A urinary Legionella antigen test result was positive, and his antibiotic treatment regimen was changed to azithromycin. He subsequently developed acute respiratory distress syndrome and required intensive care for 33 days. During his stay in the intensive care unit, where developing rhabdomyolysis, acute renal failure, diarrhea, hematuria, thrombocytopenia, and disseminated intravascular coagulation and had persistent leukocytosis. He also continued to have a temperature >39°C for ~15 days. He was eventually discharged to a rehabilitation facility, where he continued to improve.
The initial differential diagnosis for this patient’s hyperpyrexia, in the case of normal findings on chest radiograph, included alcohol withdrawal, neuroleptic malignant syndrome, serotonin syndrome, status epilepticus, meningitis, encephalitis, cerebral hemorrhage, thyroid storm, and tetanus. Ultimately, we concluded that his hyperpyrexia was due to infection with *L. pneumophila*, because his illness did not respond to treatment with benzodiazepine and because there was no evidence that he had used psychotropic drugs. This case demonstrates that alternative infectious agents, such as *L. pneumophila*, can cause hyperpyrexia similar to that seen in the patient described by Assimacopoulos et al [1].

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