Opportunistic infections after alemtuzumab:

New cases of norcardial infection and cytomegalovirus syndrome

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Alemtuzumab is an anti-CD52 monoclonal antibody that produces rapid depletion of B and T lymphocytes and other immune cells expressing the CD52 glycoprotein.[1] Lymphocyte counts fall rapidly after treatment and steadily increase over the next 6-12 months.[1] In phase III trials of alemtuzumab in relapsing-remitting multiple sclerosis (RRMS), serious infections were surprisingly uncommon given the profound and sustained period of lymphopenia.[2, 3] Opportunistic infections including oesophageal candidiasis[3], reactivation of latent tuberculosis[2, 3], listeria meningitis[4] and cerebral nocardiasis[5] have been reported, though rarely.

In this issue of *Multiple Sclerosis Journal* further cases are reported of early opportunistic infections in RRMS patients receiving alemtuzumab. Clerico and colleagues describe two patients who developed cytomegalovirus (CMV) syndrome within the first month after alemtuzumab, with fever and evidence of CMV-DNA in blood samples. The patients improved after treatment with ganciclovir and valganciclovir. Sheikh-Taha and Cormon describe a patient with RRMS who developed pulmonary nocardiasis five weeks after receiving alemtuzumab. The patient improved on treatment with meropenem. A case of fulminant cerebral nocardiasis was also recently reported in an RRMS patient treated with alemtuzumab.[5]

Neurologists treating patients with alemtuzumab need to be vigilant to possible opportunistic infections, particularly in the first few months after treatment. Based on experience in phase III trials these appear to be rare[2, 3], but as alemtuzumab is used increasingly in routine clinical practice, including in patients with medical co-morbidities, greater exposure to previous disease-modifying treatments, and more disability, the incidence of serious infections may rise. Moreover infections like CMV and nocardiasis need to be actively considered, since outside the setting of immunosuppression they are not common. Phase IV post-authorisation

studies are underway that will be helpful in clarifying the frequency of these potentially serious adverse events in the real-world setting. Neurologists treating MS with potent agents need to expect the unexpected.

References

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