

Medical Update Memo

July 22, 2010

Reconstitution of circulating lymphocyte counts in FTY720-treated MS patients

Summary

FTY720 (Fingolimod) is a new therapy that reduces disease activity by decreasing numbers of a specific immune system cell. The authors investigated patients who discontinued therapy during clinical investigation and they found that the reconstitution of this specific cell-type after prolonged FTY720 therapy can be significantly greater than predicted. Johnson TA, Shames I, Keezer M, Lapierre Y, Haegert DG, Bar-Or A, Antel J. *Clin Immunol.* 2010 Jul 2.

Details

FTY720 (Fingolimod) reduces multiple sclerosis disease activity by inducing lymphopenia and inhibiting lymphocyte re-entry from lymph nodes. Peripheral lymphocyte reconstitution following drug discontinuation has been considered relatively rapid (2-4weeks), based on short-term studies. Authors investigated the kinetics of lymphocyte reconstitution in MS patients in open label extension phases of FTY720 clinical trials who discontinued therapy after prolonged use (>1-5years), and examined histological features of a mediastinal lymph node obtained from a lymphopenic FTY720 patient.

Although three patients showed reconstitution of peripheral lymphocytes within the predicted timeline, two patients continued to be lymphopenic 9 and 34months after therapy cessation. Lymph nodes from the latter patient showed preserved architecture. Notwithstanding preserved lymph node integrity, time for lymphocyte reconstitution after prolonged FTY720 therapy can be significantly greater than predicted by shorter-term studies. This is relevant for clinical decisions regarding management of patients using this therapy and for introducing alternate therapies.

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