

Levothyroxine sodium**S****Drug-induced liver injury due to ferric oxide additive in an elderly patient: case report**

A 65-year-old woman developed drug-induced liver injury while receiving levothyroxine sodium [Thyradin S; Thyroxine sodium]; her reaction was thought to be due to a ferric oxide additive.

The woman underwent subtotal thyroid resection for adenomatous goitre in 2009, and continued thereafter on levothyroxine sodium [Thyradin S], one 25µg tablet and one 50µg tablet per day (75µg/day) [route not stated]. Blood tests conducted up to July 2010 produced results within the normal range. However, in October 2010, an increased hepatobiliary enzyme was found, along with the following values: ALP 277 IU/L, AST 145 IU/L, ALT 199 IU/L and GGTP 78 IU/L. She was referred to hospital for diagnosis. An ultrasound-guided biopsy revealed stratified hepatic cell loss localised in the region of the central vein, and lymphocyte infiltration. A slight degree of lymphocyte infiltration was noted in the region of the portal vein. These findings were compatible with liver damage caused by a drug or toxic substance. Levothyroxine sodium was her only medication, so a diagnosis of drug-induced liver damage resulting from levothyroxine sodium was reached.

The woman's levothyroxine sodium was changed to Thyroxine sodium 25µg and 50µg tablets, but there was no subsequent improvement in her liver damage. In April 2011, due to supply difficulties associated with the Great East Japan Earthquake, her medication was switched to Thyradin powder, after which her hepatobiliary enzyme values normalised. It was concluded that ferric oxide, present in both Thyradin and Thyroxine sodium, was the cause of the liver damage.

Author comment: *Thyradin powder has no additive other than lactose; from this we conclude that the liver damage in the case discussed here was caused by additives. Changing therapy from Thyradin to Thyroxine sodium did not result in an improvement in liver damage, which suggests that ferric oxide, present in both agents, was the cause.*

Toki M, et al. Case report; a rare case of drug-induced liver damage by suspected additive of Thyradin. Nihon Naika Gakkai Zasshi 102: 143-6, No. 1, 10 Jan 2013 [Japanese; summarised from an English translation]. - Japan 803094410