Statin standoff: Does rosuvastatin tip the balance in diabetic patients?

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When it comes to cholesterol-lowering statin medications for patients with type 2 diabetes, rosuvastatin may be a better choice than atorvastatin, according to the findings of a new study presented today at ESC Congress 2014.

"Statins have been shown to slightly increase the risk of new-onset diabetes but few studies have been done to investigate their impact on existing diabetes. Such data would greatly contribute to decision-making when these patients are treated in routine clinical settings," said Hisao Ogawa, MD, PhD, investigator of the LISTEN (LIpid lowering with highly potent Statins in hyperlipidemia with Type 2 diabetes patiENts) trial.

Results of the trial, presented as an ESC Hot Line, suggest rosuvastatin may have an initially more favourable effect on glucose levels compared to atorvastatin, making it a wiser choice especially in diabetes patients who struggle to keep glucose levels down, said Professor Ogawa, from the Graduate School of Medical Sciences at Kumamoto University in Kumamoto, and Deputy Director General of the Hospital, National Cerebral and Cardiovascular Center, Suita, Osaka, Japan.

The study randomised patients with type 2 diabetes and high cholesterol to either 5mg of rosuvastatin daily (n=514) or 10mg of atorvastatin daily (n=504) for a year.

An increase in statin dose was allowed only if a patient's cholesterol

levels were not controlled adequately according to Japanese guidelines, but decisions about adjusting diabetes medication were left to the treating physicians' discretion.

The primary endpoint of the trial was the change from baseline in non-HDL cholesterol (total cholesterol minus HDL or "good cholesterol") and glycated hemoglobin (HbA1c), an indication of blood glucose.

At the end of the study both groups had a reduction in non-HDL cholesterol, with non-statistically significant difference between the rosuvastatin and atorvastatin groups (-32.86% and -31.01%, respectively).

Similarly, the reduction in LDL ("bad cholesterol") was not significantly different between the groups at one year (-34.79% and -32.78% mg/dL respectively).

However, at three months, LDL reduction was significantly greater in the rosuvastatin group (-39.38% vs -36.39%, p=0.0106).

Blood glucose levels increased in both groups, with no significant difference between them at 12 months (mean change of 0.11% and 0.12% in the rosuvastatin and atorvastatin groups respectively).

However, the initial increase in blood glucose was more abrupt in the atorvastatin group (121.4 and 126.0 mg/dL at 3 and 6 months) compared to the rosuvastatin group (118.8 and 122.9 mg/dL at 3 and 6 months), a difference that was statistically significant (p=0.0104).

"This would have influenced physicians' behavior to change the intensity of diabetes treatment more significantly in the atorvastatin group," noted Professor Ogawa. In fact, more patients on atorvastatin were given an increase in their diabetic therapy to control their initial abrupt rise in

glucose (64 vs. 45 subjects; HR 1.46, p=0.05).

There was a similar rate of adverse and serious adverse events in both groups (20.7% and 3.7% in the rosuvastatin group and 20.0% and 2.8% in the atorvastatin group), with 4.5% and 5.9% respectively deemed connected to the study drug.

"A statin's impact on glucose metabolism should also be considered along with its cholesterol-lowering potency when making treatment choices for diabetic patients with high cholesterol," said Professor Ogawa. "Our results suggest rosuvastatin might be more preferable to atorvastatin due to its different influence on glucose levels."

He noted that the study used Japanese-approved dosages of rosuvastatin (5 mg) and atorvastatin (10 mg), which are small compared to standard North American or European doses (10-20 mg and 20-40 mg respectively). "Therefore our results might have underestimated the effects of statins."

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