

# Researchers Find Statins Increase Risk of Diabetes

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(PhysOrg.com) -- Statins increase the risk of diabetes, but the absolute risk is low - especially when compared with a reduction in coronary events, a Glasgow academic has found.

New research based on a meta-analysis of 13 [statin](#) trials, led by Naveed Sattar, Professor of Metabolic Medicine, has shown that use of statins increases the risk of developing [type 2 diabetes](#) by 9%.

However, the absolute risk is low, especially when compared with the beneficial effect that statins have on reducing coronary events.

Published online today and in the forthcoming print edition of *The Lancet*, the paper examines trials of statin therapy which have had conflicting findings on the risk of development of diabetes in patients given statins.

To resolve this uncertainty, Professor Sattar and Dr David Preiss of Glasgow's Cardiovascular Research Centre, carried out a meta-analysis of published and unpublished data to determine whether any relation exists between statin use and development of diabetes.

The researchers included 13 trials from the period 1994-2009, and each trial had more than 1000 patients, with identical follow-up in both the statin and non-statin groups and duration of more than one year.

Trials of patients with organ transplants, or who needed haemodialysis,

were excluded.

The 13 statin trials identified contained a total of 91 140 participants, of whom 4278 (2226 assigned statins and 2052 assigned control therapy) developed diabetes over an average of four years.

Statin therapy was associated with a 9% increased risk for developing diabetes, with broad consistency in risk across the different trials. Further analysis showed that the risk of development of diabetes with statins was higher in trials with older participants.

However, neither baseline body-mass index nor change in LDL (bad) [cholesterol](#) concentrations appear to influence the statin-associated risk of developing diabetes. Treatment of 255 patients with statins for four years resulted in one extra case of diabetes.

Professor Sattar says the results do not prove that statin therapy raises diabetes risk via a direct molecular mechanism, though the possibility should be considered.

Alternatively, the increased risk could be indirectly linked to statin therapy. Slightly better survival on statins is not able to explain the increased risk of developing diabetes. Although they believe it unlikely, the authors say the increased diabetes risk in those given statins could be a chance finding.

To put the findings into context, treatment of 255 patients with statins for four years would give one extra case of diabetes—but, for 1 mmol/L reduction in LDL (bad) cholesterol concentrations (that statins would cause) the same 255 patients could expect to experience five less major coronary events (ie coronary heart disease death or non-fatal heart attack).

Professor Sattar says it could be useful to monitor older people receiving statin therapy for development of diabetes since they appear to be more at risk. He adds: “We recommend that development of diabetes is specified as a secondary endpoint in future large endpoint statin trials, and suggest that, when possible, reports of long-term follow-up in existing trials should also include incident diabetes.”

Dr Preiss continues: “In view of the overwhelming benefit of statins for reduction of cardiovascular events, the small absolute risk for development of diabetes is outweighed by cardiovascular benefit in the short and medium term in individuals for whom statin therapy is recommended. We therefore suggest that clinical practice for statin therapy does not need to change for patients with moderate or high cardiovascular risk or existing cardiovascular disease. However, the potentially raised [diabetes](#) risk should be taken into account if statin therapy is considered for patients at low cardiovascular risk or patient groups in which cardiovascular benefit has not been proven.”

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