- In a previous study, vildagliptin showed a reduced risk of hypoglycaemia versus glimepiride (titrated from 2 mg/day up to 6 mg/day) as add-on to metformin at similar efficacy; it is usually assumed that the increased hypoglycaemia with glimepiride was driven by the 6 mg/day dose.
- It was therefore of interest to assess whether the risk of hypoglycaemia is also different between vildagliptin and a low (2 mg/day) dose of glimepiride. Comparisons between vildagliptin (50 mg bid) and glimepiride (subgroups of patients on 2 mg/day, 6 mg/day and 'other', and overall glimepiride group) were done by modeling hypoglycaemia risk as a function of time and last measured HbA_{1c} using discrete event time modeling.
- The hypoglycaemia risk was significantly lower in patients receiving vildagliptin versus patients remaining on glimepiride 2 mg/day throughout the study; in addition, the hypoglycaemia risk was more pronounced in the glimepiride 2 mg/day subgroup than in the glimepiride 6 mg/day subgroup, with the 6 mg/day subgroup showing the lowest hypoglycaemia risk among the glimepiride groups.
- The present analysis indicates that the previously reported results are not driven by high doses of glimepiride and points to interesting differences among patients regarding the susceptibility to hypoglycaemia with SUs. A potential explanation for the observed inverse relation between glimepiride dose and hypoglycaemia risk could be linked to a variable attenuation of glucagon counterregulation and a variable amount of residual glucose-sensitive insulin secretion among different patients with T2DM.

This summary slide represents the opinions of the authors. Sponsorship for this study was funded by Novartis Pharma AG. For a full list of acknowledgments and conflicts of interest for all authors of this article, please see the full text online.