

Metformin sustains the efficacy of Sitagliptin in patients with type II Diabetes

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Sitagliptin is DPP-4 inhibitor that improves glycemic control in patients with type 2 diabetes mellitus (T2DM). However, we have some sitagliptin treated patients with T2DM that gradually exacerbates glycemic control, despite without weight gain. In this study, we investigated the efficacy of sitagliptin as add-on therapy to sulfonylurea, metformin, and/or pioglitazone in patients with T2DM. Forty-seven subjects with T2DM were added on sitagliptin (50mg/day) for 12 months. There had been no change in diet or all medications since 3 months ago. Mean data in baseline were 53% male, age 63.1 year, BMI 26.1 kg/m², and A1C 7.8%.

The addition of sitagliptin led to a significant mean reduction in A1C (1.0%; $p < 0.01$) until 6 months and subsequently the efficacy sustained until 12 months. In the subgroup of patients with baseline BMI < 25 kg/m², the addition of sitagliptin led to a significant mean reduction in A1C from 7.7 to 6.7% ($p < 0.01$) until 6 months, and subsequently A1C was significantly increased from 6.7 to 6.9% ($p = 0.011$) until 12 months. Body weight was no significant change at baseline, 6, and 12 months. Furthermore, in the subgroup of patients with baseline BMI < 25 kg/m² and without metformin therapy, the addition of sitagliptin led to a significant mean reduction in A1C from 7.6 to 6.6% ($p < 0.01$) until 6 months, and subsequently A1C was significantly increased from 6.6 to 6.9% ($p = 0.007$) until 12 months. However, in the subgroup of patients with baseline BMI < 25 kg/m² and ongoing metformin therapy, the addition of sitagliptin led to a significant mean reduction in A1C from 7.7 to 6.8% ($p < 0.01$) until 6 months, and subsequently A1C was no significant change from 6.8 to 6.8% ($p = 0.66$) until 12 months. Body weight was no significant change at baseline, 6, and 12 months in all groups. These results suggest that metformin sustains the efficacy of sitagliptin for long term in lean T2DM patients.

In conclusion, metformin is more effective combined therapy with sitagliptin for long-term.

Biography

Chihiro Tsukagoshi graduated from School of medicine Fukushima medical university in 2012. She has researched about the insulin resistance at Fukushima medical university as a graduate student.

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