

A 2-week treatment with mirabegron did not reverse diabetes-associated bladder hypertrophy in rats in a randomized and blinded study powered for a prespecified primary endpoint (bladder weight).

Background:

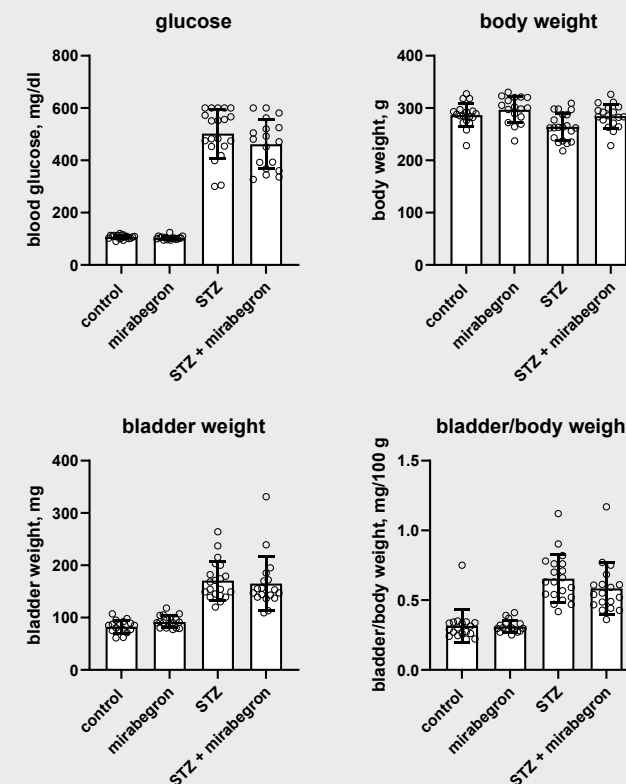
- Bladder hypertrophy occurs under various conditions including type 1 diabetes. β -Adrenoceptor agonists can have antihypertrophic effects in several tissues.

Methods:

- Similar to a human phase III trial, we conducted a study in rats powered for a prespecified primary endpoint (bladder weight) applying randomization and blinding.
- Experimental type 1 diabetes was induced by intraperitoneal injection of streptozotocin or vehicle. Two weeks later, a 2-weeks treatment with mirabegron started (10 mg/kd/d or vehicle by oral gavage).
- Analyses followed a pre-specified statistical analysis plan.

Results:

- The study showed the expected effects on blood glucose and body weight, validating the model.
- Bladder weight more than doubled in diabetic rats, also validating the model.
- Mirabegron had no effects on glucose levels or body and bladder weight in control and in diabetic animals.



Conclusions

Whether a lack of effect of mirabegron on bladder weight in this rat model of type 1 diabetes also applies other β_3 -agonists and/or other models of bladder hypertrophy, remains to be studied.

Funded by Deutsche Forschungsgemeinschaft (Mi 294/11-1).

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