Abstract

The effect of orally supplemented melatonin (MT) at 1 mg/kg bw for 4 weeks on feeding behavior of non-diabetic and diabetic male Wistar rats has been studied by computerized meal pattern analysis. Exogenous MT has a satiating effect in non-diabetic rats, but not in diabetic animals. The changes in feeding behavior induced by MT in non-diabetic animals are related to changes in meal frequency, size and duration leading to lower total food intake during the scotophase. MT administration to diabetic rats resulted in lower drinking time and higher faecal output, without further behavioral effects. We conclude that the notorious metabolic changes occurring in the streptozotocin-diabetic rat can overcome most of the underlying effects of MT supplementation. The possible MT usage for therapeutical purposes could benefit from the lack of behavioral alterations in diabetic animals.

Keywords

Diabetes, Feeding behavior, Feeding pattern, Melatonin, Rat.