Nocturnal hypoglycemia linked to reduced awakening response

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(HealthDay)—Nocturnal hypoglycemia is associated with reduced awakening response, according to a study published online Sept. 25 in *Diabetes Care*.

Poul Jennum, M.D., from Copenhagen University Hospital in Denmark, and colleagues conducted a trial involving 26 subjects with type 2 diabetes. Participants attended two experimental night visits (one normoglycemic and one hypoglycemic) in randomized order. On the hypoglycemic night, after participants reached sleep stage N2, glucose infusion was turned off to induce hypoglycemia until the plasma glucose (PG) target of 2.7 to 2.8 mmol/L was reached and maintained for 15 minutes. Subjects were then brought back to normoglycemia, which was maintained for the rest of the night. PG was maintained at 5.0 to 7.0 mmol/L throughout the normoglycemic night.

The researchers observed no difference between the experimental nights in the rate of electroencephalography-identified arousals or awakenings during the first four hours of sleep. Compared with the normoglycemic night, on the hypoglycemic night the rate of awakenings was 27 percent lower during hours four to eight and 20 percent lower during hours zero to eight (both statistically significant). There was a tendency toward longer total sleep time on the hypoglycemic night (observed means, 366 versus 349 minutes; P nonsignificant).

"These findings underscore the risks associated with nocturnal hypoglycemia because nocturnal hypoglycemia potentially affects the patient's ability to wake up and respond with an adequate intake of carbohydrates," the authors write.

Several authors disclosed financial ties to pharmaceutical companies, including Novo Nordisk, which funded the study.

More information: Abstract
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