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Hypoglycemic detection with continuous glucose monitoring is much more effectively than frequent capillary blood glucometer in diabetic patients

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Objective
To compare the effectiveness of continuous glucose monitoring (CGM) and self-monitored blood glucose (SMBG) on detection of hypoglycemic episodes.
Research design and methods
We studied on diabetic patients treated with insulin or oral agents, who were monitored in 6 consecutive days using both CGM and SMBG.
Results
43 patients were 46 ± 17 years old with an HbA1c of 8.15 ± 1.98% each monitored for an average of 144 hours. In this group, 32/43 (74.4%) of these had hypoglycemic episodes with an average of 0.77 ± 0.53 episodes/day, of those events, 21.3% were severe and 31.5% were at night. SMBG revealed that 44.2% of the patients had experienced hypoglycemia meanwhile CGM found hypoglycemia in 74.4% of patients. CGM detected significantly higher percentages of hypoglycemic episodes than capillary blood glucose measurements with 144 events vs 40 events, in which severe episodes were 31 and 6, respectively. 41.8% of patients experienced asymptomatic hypoglycemic episodes and 27.9% experienced nocturnal hypoglycemic events recorded by CGM but had no data in capillary blood glucose diary.
Conclusions
In diabetic patients, CGM showed higher number of hypoglycemic events than did SMBG, especially asymptomatic and nocturnal events. CGM is a useful tool which detects hypoglycemic events significantly effective and provides valuable information for clinical doctors.