

Conferencias y Simposios

Simposio: Nuevos horizontes en la terapéutica de la diabetes mellitus tipo 1

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Monitoreo glucémico continuo y control glucémico *online*

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Las herramientas para evaluar el grado de control glucémico se modificaron últimamente. La hemoglobina glicosilada (HbA1c), parámetro considerado como *gold standard*, solo refleja el control glucémico de los últimos tres meses de manera retrospectiva, sin expresar la variabilidad glucémica (VG), lo que limita tomar decisiones terapéuticas adecuadas y en tiempo.

El automonitoreo glucémico capilar (AGC) solo brinda información inmediata sin detectar tendencias ni datos de VG. Además, es un método invasivo. La incorporación del monitoreo continuo de glucosa (MCG) no solamente permite medir la glucosa instantáneamente, sino que además muestra sus tendencias y su variabilidad en forma continua incorporando nuevas métricas. Esto constituye una nueva forma de evaluar el control glucémico mediante el perfil ambulatorio de glucosa (PAG).

Gracias al PAG pueden analizarse los patrones del control glucémico durante el sueño, los ayunos prolongados, la actividad física y las intercurrencias, expresándolos durante períodos de horas (8 a 24 horas) o días (7, 14, 30 y 90 días). El PAG contiene las siguientes métricas: porcentaje de tiempo en rango (70-180 mg/dl=TIR), porcentaje de tiempo por encima del rango (>180 mg/dl=TAR), porcentaje de tiempo por debajo del rango o hipoglucemia (<70 mg/dl=TBR) y coeficiente de variabilidad (%CV). Se sugiere alcanzar un TIR durante >70% del día, un TAR >180 mg/dl durante <25% del día y un TBR <70 mg/dl durante <5% del día, y en pacientes lábiles, un TIR de solo el 50% del día; en la diabetes mellitus tipo 1 (DM1) con embarazo, un TIR de 63-140 mg/dl durante >70% del día.

El MCG estaría indicado en adultos, adolescentes y niños (a partir de 4 años para FreeStyle Libre y 2 años para Dexcom), con diabetes mellitus tipo 1 (DM1) sin adecuado control glucémico o con adecuado control que presentan hipoglucemias leves/moderadas. También en pacientes embarazadas con DM1 o con DM2 bajo terapéuticas insulínicas intensificadas (TII).

La información continua permite tomar decisiones inmediatas, ya sea con la ingesta de carbohidratos o con la aplicación de insulina. El MCG con TII o bomba portable de insulina (BPI) es una herramienta muy útil y complementaria para el tratamiento de la DM1 y DM2 en la insulinoterapia. Su utilización se asoció con descensos significativos en la HbA1c, disminución de la variabilidad glucémica, reducción de las hipoglucemias totales y nocturnas, y mejoría de la calidad de vida en estos pacientes. Finalmente, la otra ventaja de esta metodología es la posibilidad de compartir los datos telemétricamente, ya sea entre el paciente y sus familiares responsables, y entre el paciente y su centro médico permitiendo tomar decisiones terapéuticas *online*.

Palabras clave: diabetes; control glucémico.

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Symposium: New horizons in the treatment of type 1 diabetes mellitus

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Continuous glycemic monitoring and glycemic control online

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The tools to assess the degree of glycemic control were modified lately. Glycosylated Hemoglobin (HbA1c), the gold standard, reflects the glycemic control of the last 3 months retrospectively, without expressing glycemic variability. It can be modified in the presence of hemoglobinopathies and/or alterations of erythropoiesis, inducing inappropriate and late therapeutic decisions.

Self-blood glucose monitoring (SBGM) provides immediate and prospective information, but has little glycemic data to generate representative averages and standard deviations. It does not detect trends and has limitations to obtain nocturnal data or during physical activity. It is invasive and often rejected.

On the contrary, continuous glucose monitoring (CGM), allows to measure glucose instantly, shows your trends and variability continuously, incorporating new control metrics. The CGM would be indicated in adults, adolescents and children (> 4 years for FreeStyle Libre and > 2 years for Dexcom), with diabetes mellitus type 1 (DM1) without adequate glycemic control or with adequate control presenting mild hypoglycemia/moderated. It is also indicated in pregnant patients with DM1 or with type 2 diabetes mellitus (DM2). For DM2, except under intensified insulin therapeutics (IIT), the evidence at the moment is scarce, although recent studies show its effectiveness in these patients.

The ambulatory glucose profile (AGP) analyzes the patterns of glycemic control during sleep, prolonged fasting, physical activity and intercurrences, expressing them as curves with their standard deviations during periods of hours (8 to 24 hours) or days (7, 14, 30 and 90 days). The AGP contains the following metrics: percentage time in range (70-180 mg/dl=TIR), percentage time above range (>180 mg/dl TAR), percentage time below range or hypoglycemia (<70 mg/dl=TBR) and coefficient of variation (%CV). It is suggested to achieve a TIR >70% of the day, a TAR > 180 mg/dl < 25% of the day and a TBR < 70 mg/dl at < 5% of the day. In labile patients, a TIR only 50% of the day. In pregnant women with DM1 a TIR of 63-140 mg/dl in > 70% of the day.

The continuous information allows immediate decisions to be taken by ingesting carbohydrates or by applying insulin. CGM with IIT or continuous subcutaneous insulin infusion (CSII), is a very useful and complementary tool for the treatment of DM1 and DM2 in insulin therapy. Its use was associated with significant decreases in HbA1c, decreased glycemic variability, reduction of total and nocturnal hypoglycemia and improvement of the quality of life in these patients. Finally a very important advantage of this tool is the chance to achieve all the information on line.

Key words: diabetes; glycemic control.

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