op15  Oral Presentation
***Insulin therapy: From monitoring to control***

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| **Title: O-0504** |
| *Patient- or Physician-driven Continuous Glucose Monitoring in poorly-controlled T1D patients: a one-year randomised multicenter study.* |
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| **Co-authors** |
| R.P. Radermecker1, V Melki2, L Dufaitre3, J.P. Riveline4, L Chaillous5, A. Farret6, A. Sola7, A Clergeot8, S Guilmin-Crépon9, V. Sulmont10, B. Catargi11, G. Charpentier4.1CHU Sart Tilman University of Liege, Diabetes Nutrition and Metabolic disorders, Liege, Belgium.2CHU Toulouse, Pôle Cardio-Vasculaire et Métabolique Service de Diabétologie, Toulouse, France.3University Hospital Sainte Marguerite, Service de Nutrition-Endocrinologie-Maladie Métaboliques, Marseille, France.4Centre hospitalier sud-francilien, Service de Diabétologie Endocrinologie, Corbeil-Essonnes, France.5CHU Nantes, Institut du thorax Service d'endocrinologie-diabétologie, Nantes, France.6Montpellier University Hospital, Endocrinology Department, Montpellier, France.7CHU Hôtel-Dieu, Service de Diabétologie, Paris, France.8Centre Hospitalier Universitaire de Besançon, Department of Endocrinology, Besançon, France.9Hôpital Robert Debré APHP, Service Endocrinologie et CIC, Paris, France.10American Memorial Hospital CHU Reims, Service de Pédiatrie A, Reims, France.11CHU Bordeaux, Department of Endocrinology, Pessac, France.  |
| Background and aims: Benefits of real-time CGM have been shown in T1D patients in short term studies. The observance to the use of the device seems to be important but no study has evaluated the most appropriate approach for this observance (Patient- or Physician-driven). The aim of the present study is to assess the effect of these 2 approaches of one-year use of CGM in poorly-controlled T1DMaterials and methods: The study protocol was designed as a 1-year, international multicenter trial (Capteur Evadiac Group). Inclusion criteria were age ≥ 8yrs, T1D for ≥1 year, use of either multiple daily insulin injections (MDI) or an insulin pump and A1c level ≥ 8%. Patients were randomly assigned into 3 groups (1:1:1). Two modes of using CGM (FreeStyle Navigator™) were considered: Group 1 (G1): patient-led, Group 2 (G2): physician-driven where sensors were prescribed initially 50% of the time and more often if the targets were not reached (A1c<7.5%, <4 mild hypoglycaemia/week, no severe hypoglycaemia) based on a specific algorithm. These two strategies were compared to a usual Self Blood Glucose Monitoring practice (Group 3 (G3): control). The primary outcome was the change in A1c level at one year. The secondary outcomes were SD of glucose levels, hypoglycaemia and QoL.Results: Overall, 178 patients completed the study: age:36±14 yrs, duration of T1D:17±10 yrs, A1c:8.9±0.9 %, SD glucose (8-point blood glucose profile):70[52;84] mg/dl (mean±SD or median [95% CI]). At one year, A1c changes were similar in both CGM groups, and significantly higher than in the control group:G1vsG3: -0.52 %, p=0.0006, G2 vs. G3: -0.47 %, p=0.0008, G1+G2 vs. G3:-0.50 %, p<0.0001. SD glucose was reduced only in group 2 by 15.7 [-28.8;-4.61] vs.G3 by 0.6 [-8.9;-4.6] mg/dl (p=0.049). Occurrence of hypoglycaemia was similar in the 3 groups. Diabetes Quality of Life questionnaire (DQoL) showed improved patient satisfaction while SF-36 questionnaire pointed out better physical health scores in both CGM groups (respectively p=0.004 and p=0.04). The number of sensors used per month was significantly lower in G2 vs. G1: 2.25 [1.27; 2.99] vs 3.42 [2.20; 3.91],p<0.001. Improvement of A1c level was higher in patients on pump (G1+G2 vs. G3: -0.7 %) than on MDI (G1+G2 vs. G3: - 0.2 %).Conclusion: A long-term use of CGM resulted in a sustained improvement of glucose control and QoL in poorly-controlled T1D patients. The improvement of A1c level was observed without an increasing of hypoglycaemic events. A CGM prescription by the physician achieved a same improvement as a patient-led use, but with 34% fewer sensors. |
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| **Biography:** article-title>Patient- or physician-driven continuous glucose monitoring in poorly-controlled T1D patients: a one-year randomised multicenter study |

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