SUPPLEMENTARY DATA

Statistical methods

QoL scores are summarized as mean ± standard deviation (SD). For each individual, the difference between V4 and V2 and between V5 and V2 was calculated. The two analyses were carried out separately to better investigate the impact on QoL of basal insulin initiation (V4 vs. V2) and the overall effect of the basal plus scheme (V5 vs. V2). These differences were compared between study groups using the Mann-Whitney U-test. Within-group comparisons (V4 vs. V2 and V5 vs. V2) were performed using Wilcoxon's signed rank test. Changes in QoL and satisfaction scores according to the frequency of hypoglycemic episodes (blood glucose readings <72 mg/dl [4 mmol/l]) in the 30 days preceding the administration of the questionnaire) were compared using the Kruskal-Wallis one-way ANOVA. Independent correlates of V5–V2 changes in each of the QoL and treatment satisfaction scores were investigated using multiple linear regression analyses with stepwise variable selection. The following covariates were tested: age, gender, study arm, V5–V2 change in HbA1c levels, V5–-V2 change in body weight, number of hypoglycemic episodes in the 30 days preceding V5 (none, 1–3, ≥4).

Results

Changes in QoL and satisfaction scores between V5 and V2 were analyzed according to the frequency of hypoglycemic episodes that occurred in the previous 30 days (none, 1–3, >3 episodes). For SF-36 physical component summary (PCS) and mental component summary (MCS) scores, improvements were more evident in patients with none or less than 4 episodes, with a borderline significance for the MCS score ($p = 0.055$) (**Supplemental Fig. 1A**).

The DTSQ score markedly increased in patients not experiencing hypoglycemic episodes, moderately increased in those who had <4 episodes, and was almost unmodified in those with a higher rate of reported hypoglycemic episodes (**Supplemental Fig. 1B**). As expected, the perceived frequency of hypoglycemic episodes was higher among patients with a higher rate of documented hypoglycemic episodes.

Finally, multivariate analyses showed that HbA1c changes during the study and >3 hypoglycemic episodes in the previous 30 days were the variables more consistently associated with changes in QoL and satisfaction scores (**Supplemental Table 1**). In particular, the reduction in HbA1c levels was independently associated with an improvement in general health perception, social functioning, and SF-36 MCS scores, in the depression and general well-being WBQ scores, and in DTSQ score. On the other hand, patients experiencing frequent (i.e., >3) hypoglycemic episodes had lower energy/vitality and SF-36 MCS scores, lower energy and general well-being WBQ scores, and a lower DTSQ score, when compared with individuals not experiencing hypoglycemia.

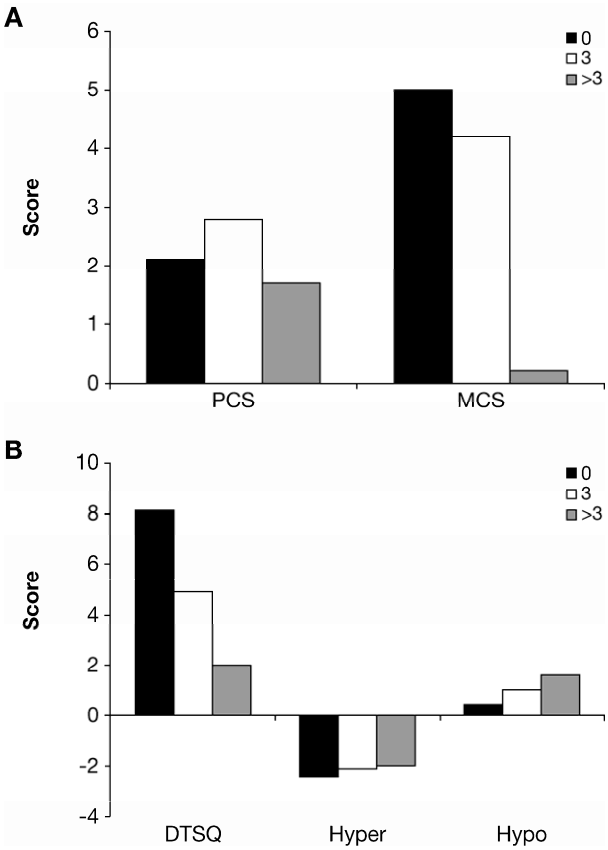
SUPPLEMENTARY DATA

Supplementary Table 1. Multiple regression analyses with stepwise selection of correlates of V5-V2 changes in QoL and treatment satisfaction scores (values are β parameters with their standard error and P value)

Scale	Age	Gender	Weight change	Study arm	HbA1c change	1–3 hypos	>3 hypos
WBQ Depression	—	—	—	—	–0.50 (0.21) *P* = 0.018	—	—
WBQ Anxiety	—	—	—	—	—	–1.76 (0.65) *P* = 0.007	—
WBQ Energy	—	—	—	—	—	—	–1.45 (0.49) *P* = 0.003
WBQ Positive well-being	—	—	—	—	—	—	—
WBQ General well-being	—	—	—	—	1.84 (0.69) *P* = 0.009	—	–5.41 (1.72) *P* = 0.002
SF-36 Physical Functioning	—	—	—	—	—	—	—
SF-36 Role Physical	—	—	—	—	—	—	—
SF-36 Bodily Pain	–0.42 (0.21) *P* = 0.05	—	—	—	—	—	—
SF-36 General Health	—	—	—	—	—	—	—
SF-36 Vitality	—	—	—	—	3.17 (1.33) *P* = 0.019	—	–8.82 (3.40) *P* = 0.01
SF-36 Social Functioning	—	—	—	—	3.01 (1.45) *P* = 0.038	—	—
SF-36 Role Emotional	—	—	—	—	—	—	—
SF-36 Mental Health	—	—	—	—	—	—	—
SF-36 Physical Component Score	—	—	—	—	—	—	—
SF-36 Mental Component Score	—	3.00 (1.41) *P* = 0.034	—	—	2.22 (0.70) *P* = 0.002	—	–5.03 (1.72) *P* = 0.004
DTSQ	—	—	—	—	1.67 (0.58) *P* = 0.004	—	–4.6 (1.5) *P* = 0.002

SUPPLEMENTARY DATA

Supplementary Figure 1. V5–V2 changes in SF-36 summary scores (A) and DTSQ scores (B) according to number of hypoglycemic episodes



PCS, Physical Component Score; MCS, Mental Component Score; Hyper, perceived frequency of hyperglycemic episodes; Hypo, perceived frequency of hypoglycaemic episodes

SUPPLEMENTARY DATA

ELEONOR Investigator List

Principal investigator name	Institutional affiliation(s)
Prof Stefano Del Prato	Stabilimento di Cisanello Azienda Ospedaliera Pisana
Dr Giacomo Vespasiani	Presidio Ospedaliero Madonna del Soccorso San Benedetto del Tronto
Prof Renato Lauro	Azienda Ospedaliera Universitaria Policlinico Tor Vergata – Roma
Prof Francesco Dotta	Azienda Ospedaliera Universitaria Senese – Policlinico Le Scotte Siena
Dr Andrea Corsi	Ospedale La Colletta – Arenzano
Dr Giuseppe Rosti	Azienda Ospedaliera Nazionale Santi Antonio e Biagio e Cesare Arrigo – Alessandria
Dr Franco Gregorio	Ospedale E. Profili – Fabriano
Prof Francesco Fallucca	Azienda Ospedaliera Sant'Andrea Roma
Dr Rossella Iannarelli	Nuovo Ospedale San Salvatore L'Aquila – Loc. Coppito
Prof. Maurizio Di Mauro	Presidio Ospedaliero Garibaldi Ambulatorio Diab e medicina interna – Catania
Prof Emanuele Bosi	Ospedale S. Raffaele di Milano
Prof Francesco Giorgino	Azienda Ospedaliera Policlinico Consorziale – Bari
Prof Roberto Torella	Azienda Universitaria Policlinico della Seconda Università degli Studi di Napoli
Dr Anna Vittoria Ciardullo	Ospedale Civile Bernardino Ramazzini – Carpi
Dr Pasqualino Calatola	ASL SA/2 – Ex Ospedale Vernieri Salerno
Dr Paolo Di Bartolo	Ospedale Santa Maria delle Croci Ravenna
Dr Massimo Boemi	INRCA – Ancona
Dr Maurizio Carlini	Ospedale Maria Vittoria – Torino
Dr Paolo Foglini	Ospedale Civile AZ. USL 11 Fermo
Dr Pietro Pata	Azienda Ospedaliera Piemonte Messina
Dr C. Augusto Lovagnini-Scher	Centro di attenzione al diabetico Presidio territoriale di Cusano Milanino Azienda Ospedaliera San Gerardo di Monza (CIT)
Prof Sergio Leotta	Ospedale "Sandro Pertini" Roma
Dr Fiorella Massimiani Dr Rita Amoretti	P.O. S. Maria – Complesso Ospedaliero S. Giovanni Addolorata – Roma
Dr Carlo Bruno Giorda	Ospedale Maggiore – Chieri
Dr Adolfo Arcangeli	Azienda USL 4 di Prato ospedale misericordia e dolce
Prof Nazario Melchionda	Policlinico S. Orsola Malpighi Bologna

SUPPLEMENTARY DATA

Prof Geremia B. Bolli	Policlinico Monteluce – Perugia
Prof Mauro Cignarelli	Azienda Ospedaliera Ospedali Riuniti di Foggia
Prof Aldo Galluzzo	Azienda Ospedaliera Universitaria Policlinico "Paolo Giaccone" – Palermo
Dr Emanuela Orsi	Fondazione Ospedale Maggiore IRCCS, Policlinico Mangiagalli e Regina Elena – Milano
Dr Cecilia Invitti	Centro Auxologico – P.O. San Michele – Milano
Dr Angelo Venezia	Ospedale Madonna delle Grazie Matera
Dr Brunella Capaldo	Dipartimento di Medicina Clinica e Sperimentale Università degli Studi di Napoli Federico II
Dr Celestino Giovannini	Poliambulatorio ASL 11 – Reggio Calabria
Dr Gabriele Maolo	Azienda Sanitaria Unica Regionale Marche, Zona territoriale 9, Ospedale Generale Provinciale – Macerata