SAP
THERAPY
aspetti educazionali
e psicologici

SEMINARIO

12 dicembre
2014

Hotel Scapolatiello
Cava de' Tirreni (Sa)

AMD ASSOCIAZIONE MEDICI DIABETOLOGI 1974
www.aemmedi.it

SID Società Italiana di Diabetologia

GRUPPO INTERSOCIETARIO
«DIABETE E GRAVIDANZA»

Matteo Bonomo

GRAVIDANZA E SAP: STATO DELL'ARTE

SAP E GRAVIDANZA
GRANDE E' LA CONFUSIONE SOTTO IL CIELO..

- ✓ SAP o CGM?
- ✓ PCGM o RTCGM?
- ✓ RTCGM continuativo o intermittente?
- ✓ RTCGM «patient-» o «specialist-oriented»?

MONITORAGGIO «PROFESSIONALE» E MONITORAGGIO «REAL TIME»

CGM PROFESSIONALE

- principalmente «specialist-oriented»
- lettura retrospettiva
- non allarmi per ipo- e iperglicemia
- evidenziazione del trend solo dopo scarico
- escluse correzioni immediate

CGM «REAL TIME»

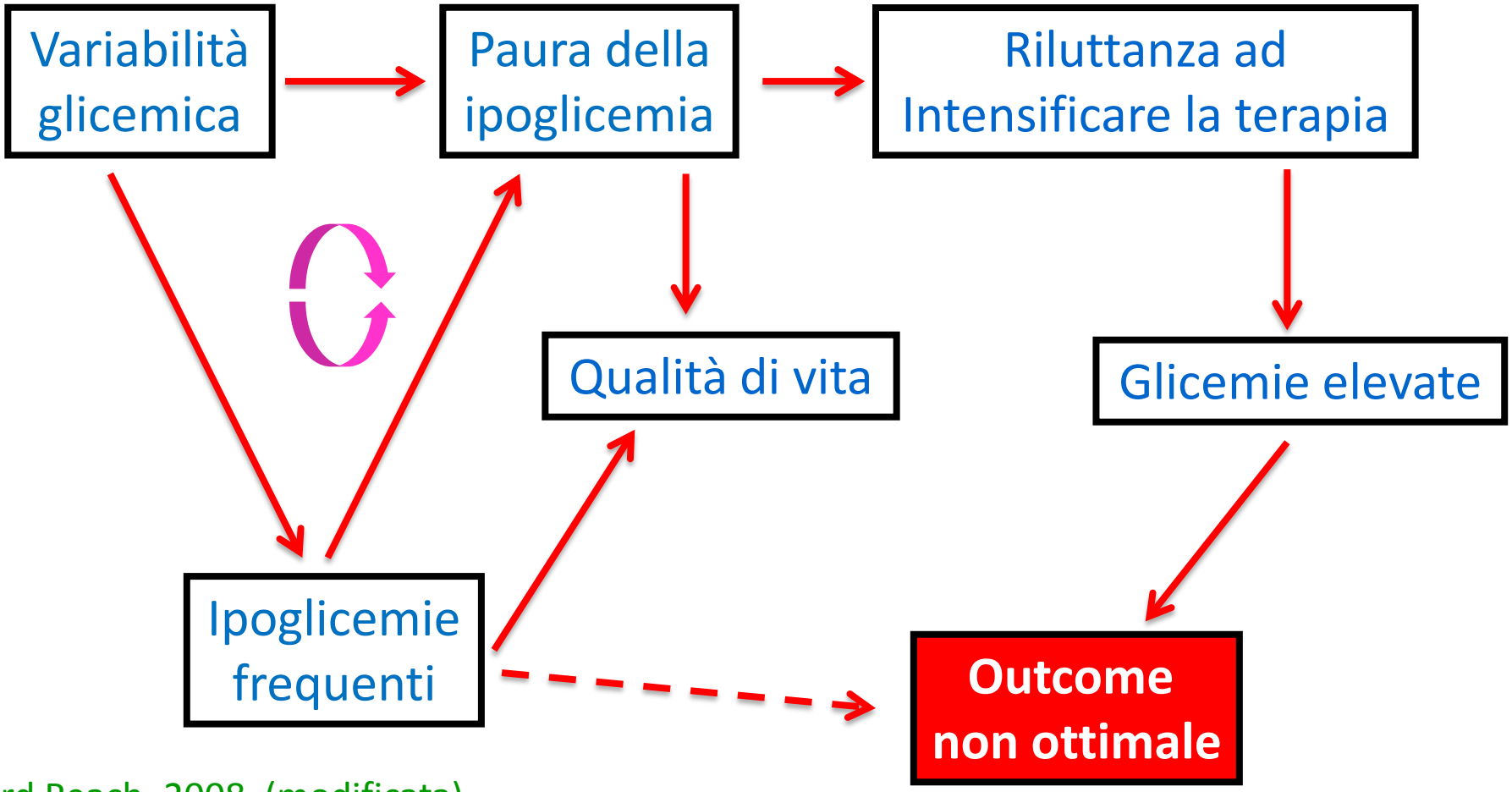
- principalmente «patient-oriented»
- lettura in tempo reale
- allarmi per ipo- e iperglicemia
- evidenziazione del “trend” immediata
- possibili correzioni immediate

VANTAGGI POTENZIALI DEL RTCGM
RISCHI DI UN USO INADEGUATO

- Possibile atteggiamento terapeutico più aggressivo, con perseguimento target più vicini a quelli fisiologici
- Maggiore sicurezza psicologica
- Miglior controllo, minore variabilità glicemica
- Eccessiva «focalizzazione» sui dati evidenziati: ansia
- Disorientamento per discrepanza fra sensore e glucometro
- Ipercorrezione: troppo frequente e/o eccessiva

- ESSENZIALE SELEZIONE DELLE PAZIENTI, E LORO FORMAZIONE.
- DISCUTERE E CONCORDARE ALGORITMI DI AUTOGESTIONE
- ASSICURARE CONTATTI FREQUENTI

OSTACOLI ALLA OTTIMIZZAZIONE METABOLICA IN GRAVIDANZA



Gérard Reach, 2008 (modificata)

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JULY 22, 2010 VOL. 363 NO. 4

Effectiveness of Sensor-Augmented Insulin-Pump Therapy in Type 1 Diabetes

Richard M. Bergenstal, M.D., William V. Tamborlane, M.D., Andrew Ahmann, M.D., John B. Buse, M.D., Ph.D., George Dailey, M.D., Stephen N. Davis, M.D., Carol Joyce, M.D., Tim Peoples, M.A., Bruce A. Perkins, M.D., M.P.H., John B. Welsh, M.D., Ph.D., Steven M. Willi, M.D., and Michael A. Wood, M.D., for the STAR 3 Study Group*

Exclusion criteria were the use of insulin pump therapy within the previous 3 years, a history of at least two severe hypoglycemic events in the year before enrollment, the use of a pharmacologic noninsulin treatment for diabetes during the previous 3 months, and pregnancy or the intention to become pregnant.

Acta Obstetricia et Gynecologica. 2010; 89: 1233–1237

informa
healthcare

CASE REPORT

Continuous glucose monitoring-enabled insulin-pump therapy in diabetic pregnancy

ANNA L. SECHER[1], SIGNE SCHMIDT[2], KIRSTEN NØRGAARD[2] &
ELISABETH R. MATHIESEN[1]

- **1st pregnancy: MDI . Due to pre-eclampsia, the child was born preterm, and had neonatal hypoglycemia**
- **2nd pregnancy: CSII . Due to pre-eclampsia, the second child was born preterm, but without neonatal morbidity.**
- **3rd pregnancy: CGM-enabled insulin-pump. The patient was satisfied with this therapy, pre-eclampsia did not occur, and the child was born at term without neonatal morbidity.**

Continuous glucose monitoring-enabled insulin-pump therapy in diabetic pregnancy.

Secher AL, Schmidt S, Nørgaard K, Mathiesen ER

Acta Obstet Gynecol Scand 2010 89: 1233-7.

		1° TRIM	2° TRIM	3° TRIM	ETA' GEST (gg)	PESO (g)	MEAN BIRTHW. SD SCORE
1ª grav. MDI	Mediana HbA1C (%)	8.9	8.3	//	252	4010	3.5
2ª grav. CSII	Mediana HbA1c (%)	6.8	6.4	6.2	256	3436	1.6
3ª grav. CSII/CGM	Mediana HbA1c (%)	6.4	6.4	6.2	265	3775	1.7
	T % con sensore	87%	88%	92%			
	Media sensore (mg/dl)	133.2	126.0	129.6			
	T in target (70-140 mg/dl)	56%	55%	64%			
	T in ipo (<70 mg/dl)	9%	12%	4%			
	T in iper (>140 mg/dl)	35%	33%	32%			

G It Diabetol Metab 2008;28:184-196

Attività Diabetologica e Metabolica in Italia

XIV Congresso Interassociativo AMD-SID Sezione Lombardia

Bergamo, 24-25 ottobre 2008

Comitato Scientifico: V. Bertone, R. Trevisan

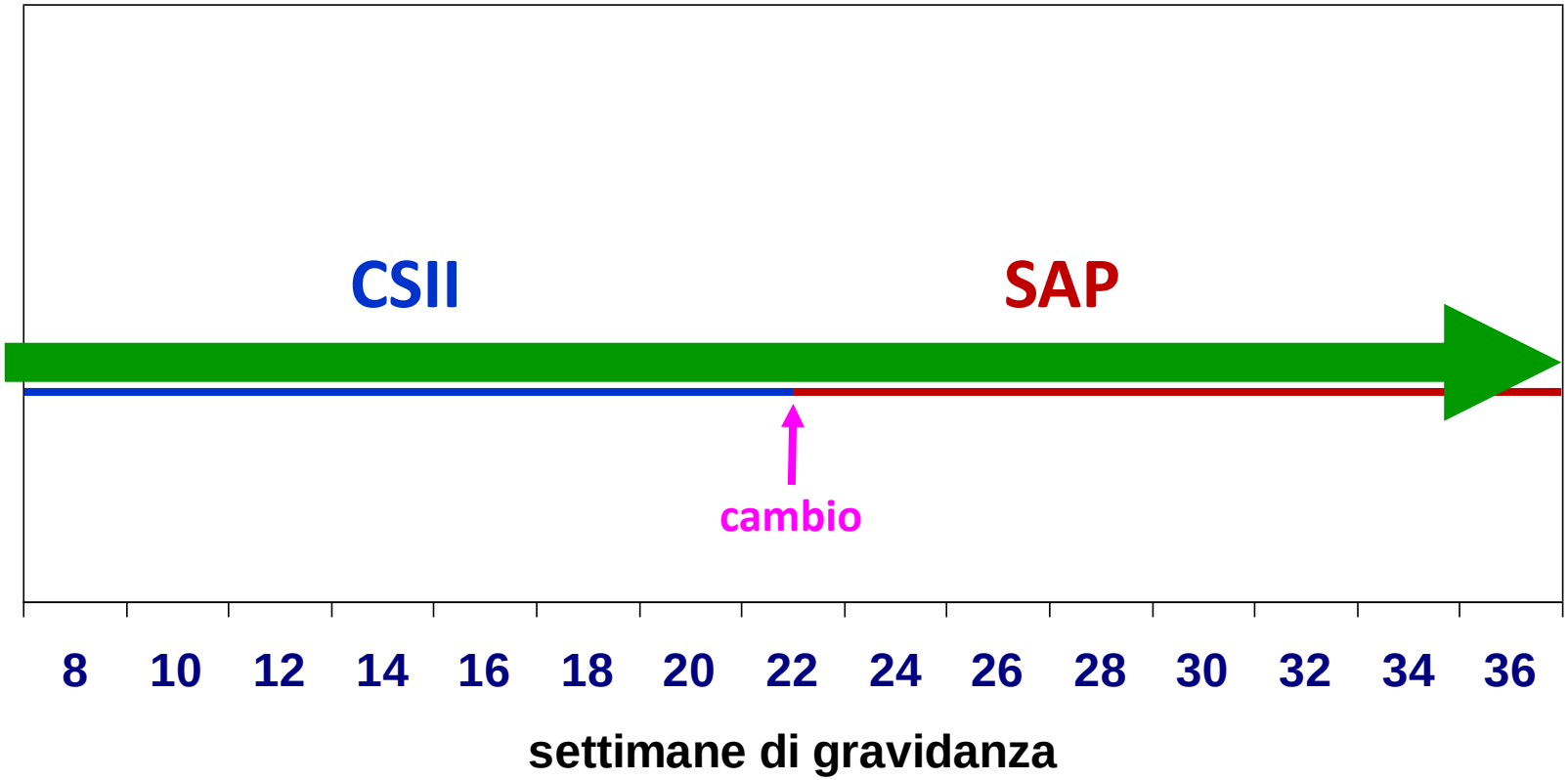
Monitoraggio del glucosio *real time* in gravidanza: l'esperienza di due gravidanze a confronto

Mion E[1], Meneghini E[1], Brambilla MC[1], Pisoni MP[2], Corica D[2], Bonomo M[1]

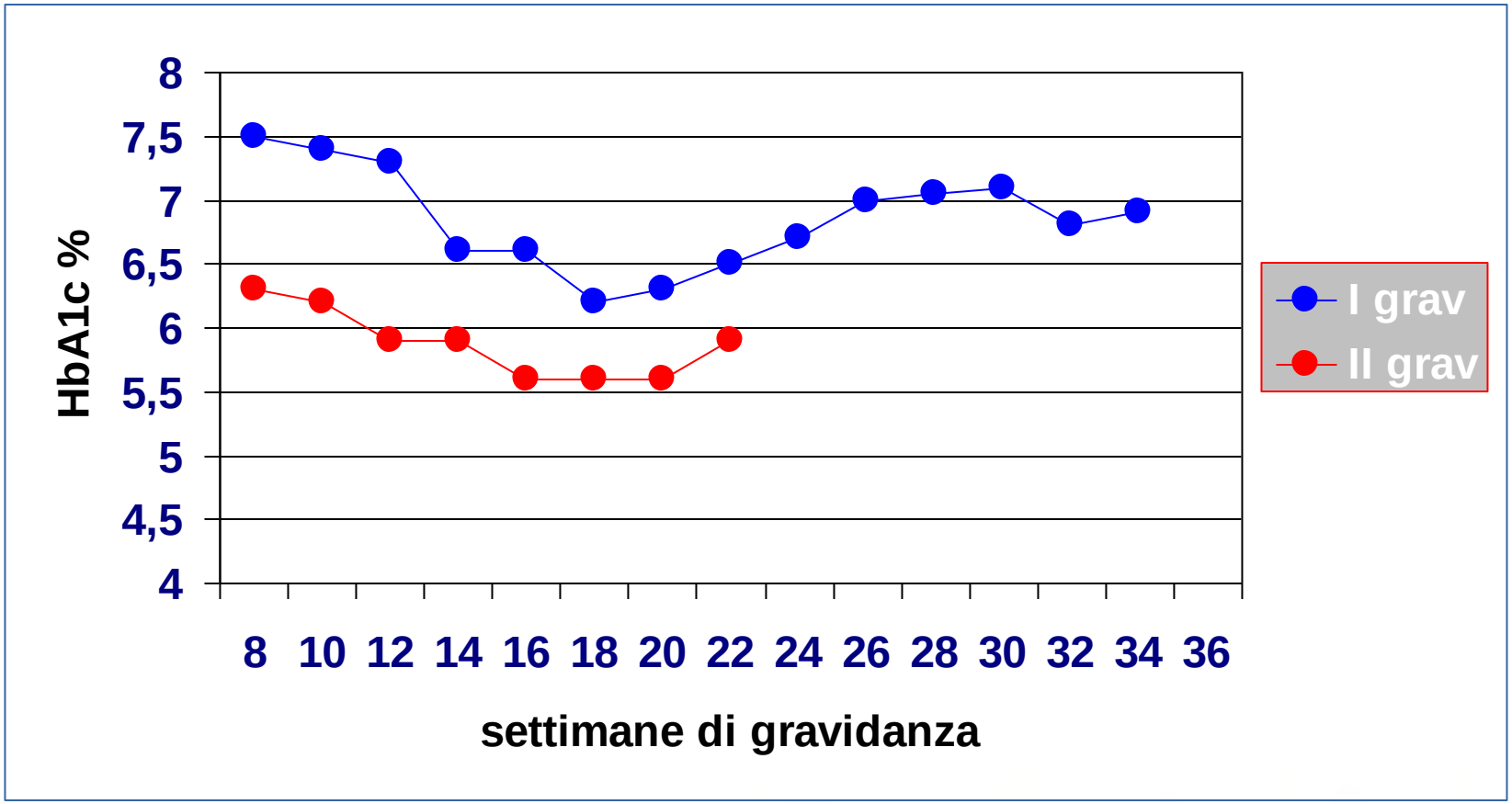
Centro Interdisciplinare Diabete e Gravidanza: [1]SC Diabetologia e Malattie Metaboliche, [2]SC Ginecologia e Ostetricia, AO Ospedale Niguarda Ca' Granda, Milano

Aspetti educazionali e psicologici

M.L.: SECONDA GRAVIDANZA



M.L.: DUE GRAVIDANZE A CONFRONTO: EMOGLOBINA GLICATA



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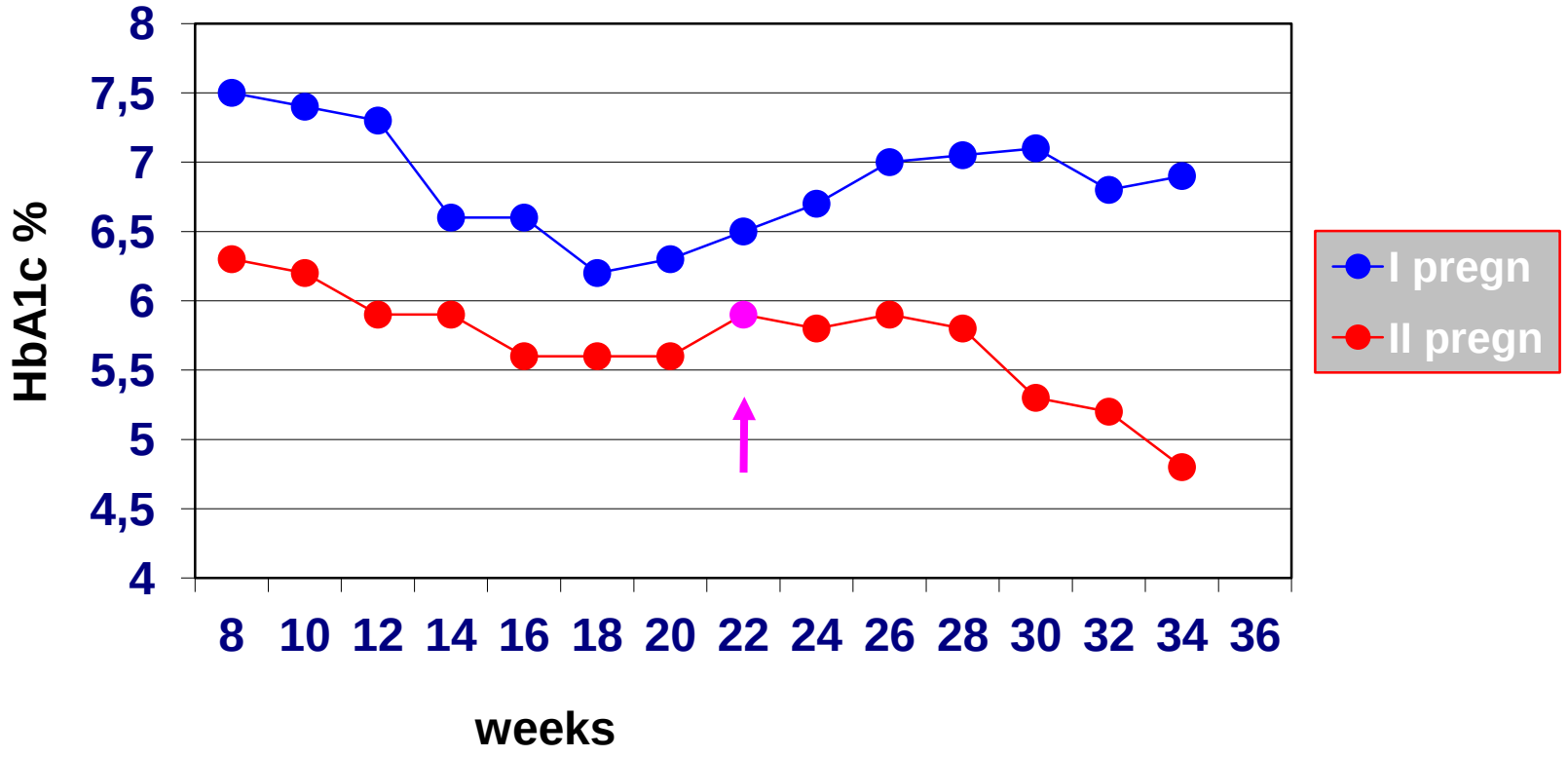
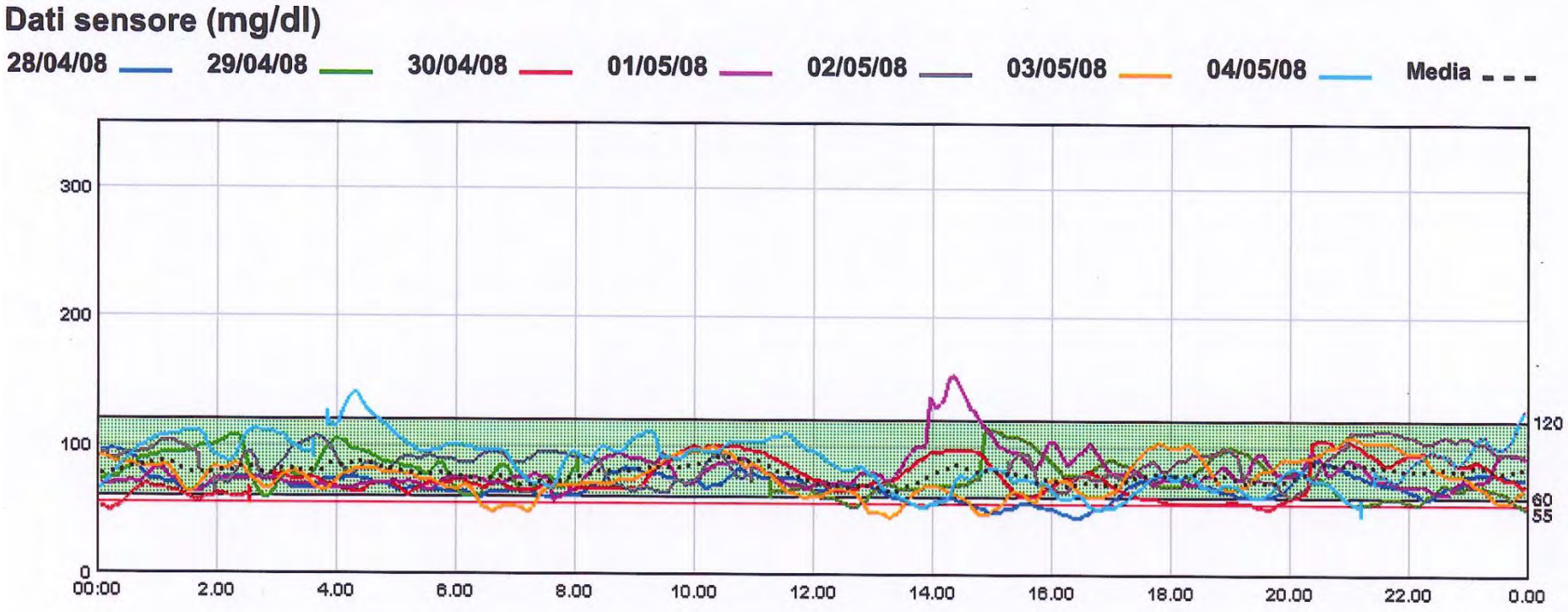


M.L. IIª GRAVIDANZA – 3° trim



M.L.: DUE GRAVIDANZE A CONFRONTO

Parametro	1° gravidanza	2° gravidanza
HbA1c - media grav. (%)	6.8	5.7
HbA1c - media 3° trim. (%)	6.9	5.3
Fruttosamine - media grav. (mmol/l)	266.3	224.6
Fruttosamine - media 3° trim. (mmol/l)	238.5	189.5
Glicemia a digiuno - media grav. (mg/dl)	109.6	86.7
Glicemia a digiuno - media 3° trim. (mg/dl)	113.5	82.2
Glicemia p.p. - media grav. (mg/dl)	136.9	110.2
Glicemia p.p. - media 3° trim. (mg/dl)	154.7	94.5
Epoca parto (sett.)	37	38
Centile peso alla nascita	95°	50°
Complicazioni neonatali	Ipoglicemia Iperbilirubin.	nessuna

29, 272–277 (2012)

Patient satisfaction and barriers to initiating real-time continuous glucose monitoring in early pregnancy in women with diabetes

A. L. Secher[1,2,3], A. B. Madsen[1,2], L. Ringholm[1,2], C. Barfred[1], E. Stage[1], H. U. Andersen[4], P. Damm[1,3,5] and E. R. Mathiesen[1,2,3]

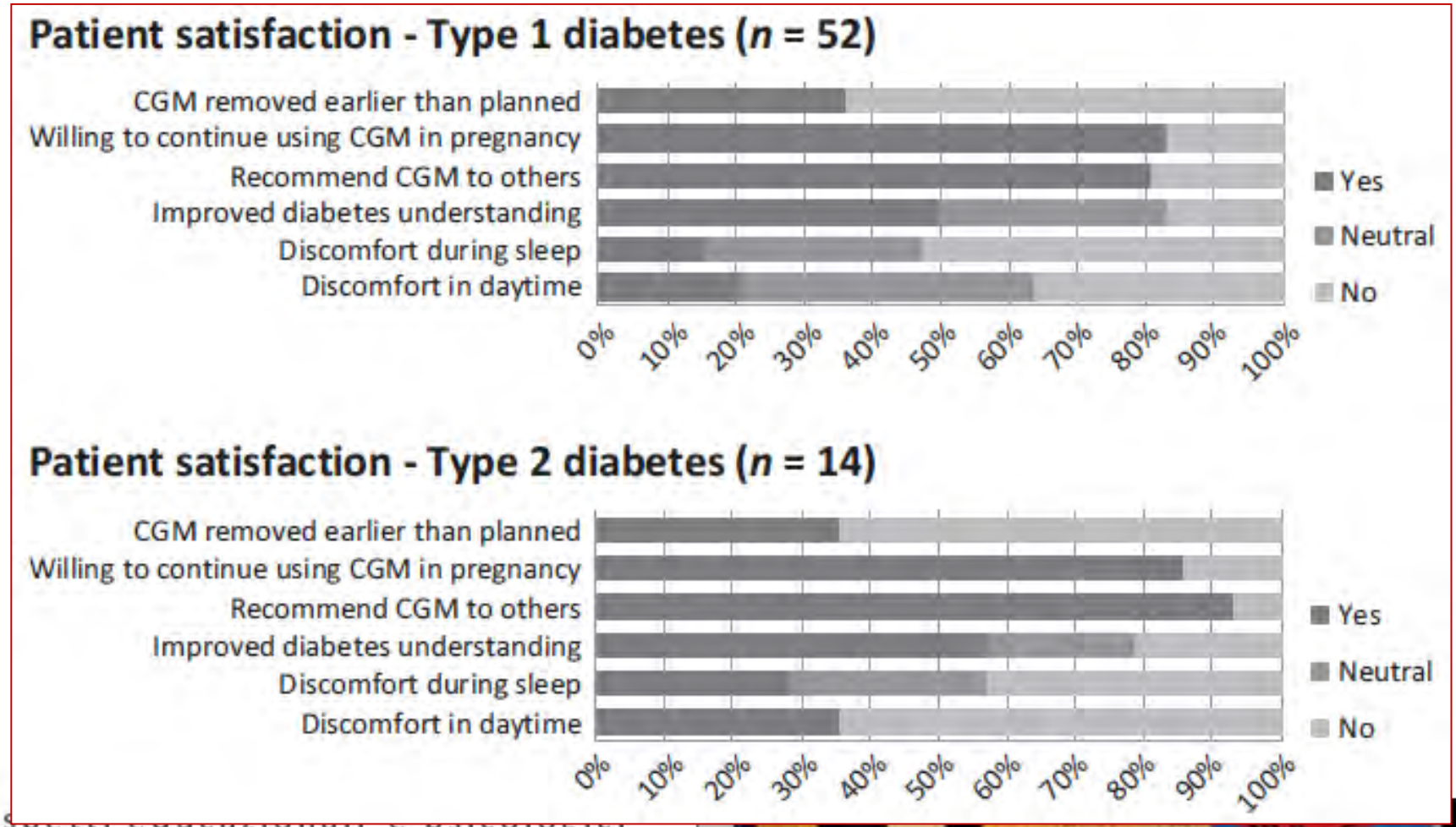
•**Aim** To evaluate self-reported satisfaction and barriers to initiating RTCGM in early pregnancy among women with pregestational diabetes.

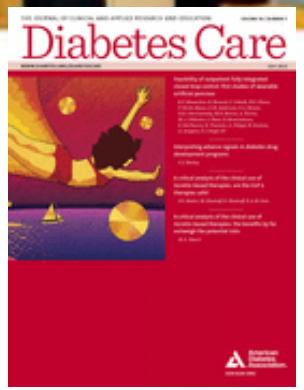
•**Methods** 54 women with T1DM and 14 with T2DM were offered CGM for 6 days at median 9 g.w. and were asked to answer a questionnaire on patient satisfaction.

•**Conclusions** The majority of pregnant women with DM found RTCGM useful and the intervention was equally tolerated regardless of diabetes type. Nevertheless, CGM was frequently removed earlier than planned, primarily because of skin irritation, technical problems and inaccuracy.

Patient satisfaction and barriers to initiating real-time continuous glucose monitoring in early pregnancy in women with diabetes

A. L. Secher[1,2,3], A. B. Madsen[1,2], L. Ringholm[1,2], C. Barfred[1], E. Stage[1], H. U. Andersen[4], P. Damm[1,3,5] and E. R. Mathiesen[1,2,3]





The Effect of Real-Time Continuous Glucose Monitoring in Pregnant Women With Diabetes

A randomized controlled trial

ANNA L. SECHER, MD[1,2,3]
LENE RINGHOLM, MD, PHD[1,2]
HENRIK U. ANDERSEN, MD, DMSC[4]
PETER DAMM, MD, DMSC[1,3,5]
ELISABETH R. MATHIESEN, MD, DMSC[1,2,3]

Diabetes Care 36:1877–1883, 2013

GRUPPO CON MONITORAGGIO CONTINUO RT	
Tipo DM	63 DMT1 (27 CSII) / 16 DMT2
SMBG	7 punti/die
RTCGM	• Intermittente: 6 gg alle sett. 8, 12, 21, 27, 33 • Proposto uso continuo se «hypo unawareness» (accettato solo in 5 donne) • In alcuni casi accettato solo per periodi di 3 gg
Allarmi	Ipo a 3.5 mmol/l (= 63 mg/dL) Iper disattivato
Gestione dati	• Non forniti algoritmi di aggiustamento • Discussione retrospettiva di ogni tracciato CGM

The Effect of Real-Time Continuous Glucose Monitoring in Pregnant Women With Diabetes

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Diabetes Care 36:1877–1883, 2013

Secher et al, 2013 ESAME DEI DATI (a)

- Use the average glucose trends for all six days
- First focus on night-time and thereafter on daytime
- Aim for night-time:
  - Glucose levels between 4.0-6.0 mmol/L (72-108 mg/dL)
  - Prevention of glucose levels below 3.9 mmol/L (70 mg/dL) more than once per week
  - Glucose curves without consistent descending or ascending trends
- Aim for daytime:
  - Pre-pr. glucose levels between 4.0-6.0 mmol/L
  - Post-pr. glucose levels between 4.0-8.0 (72-144 mg/dL)
  - At least 80% of the time between 4.0-8.0 mmol/l

The Effect of Real-Time Continuous Glucose Monitoring in Pregnant Women With Diabetes

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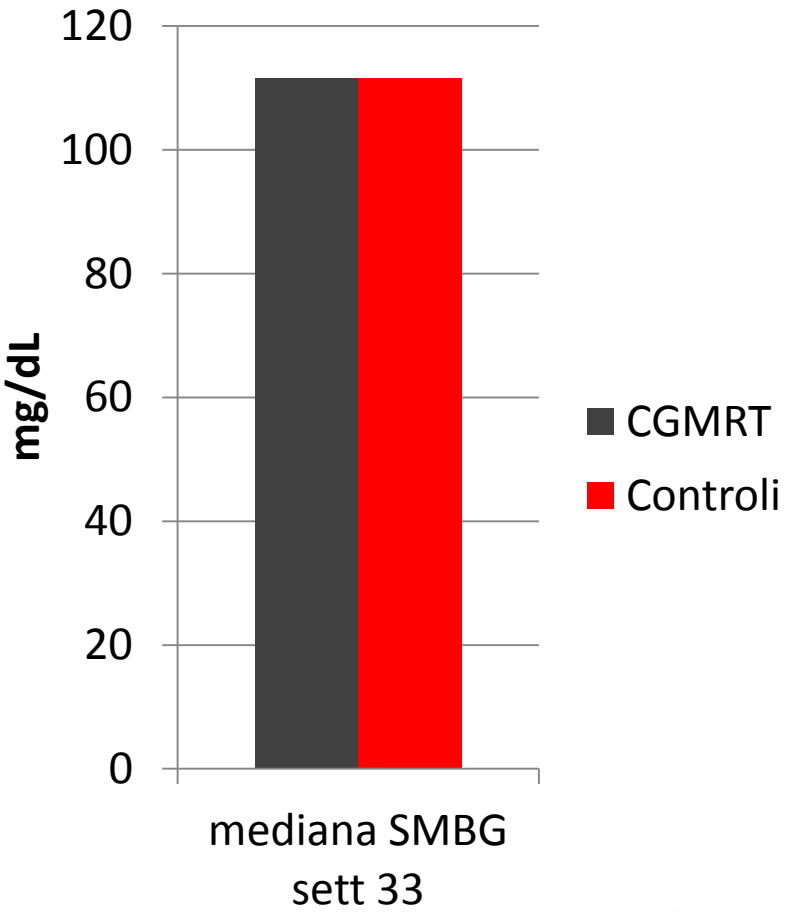
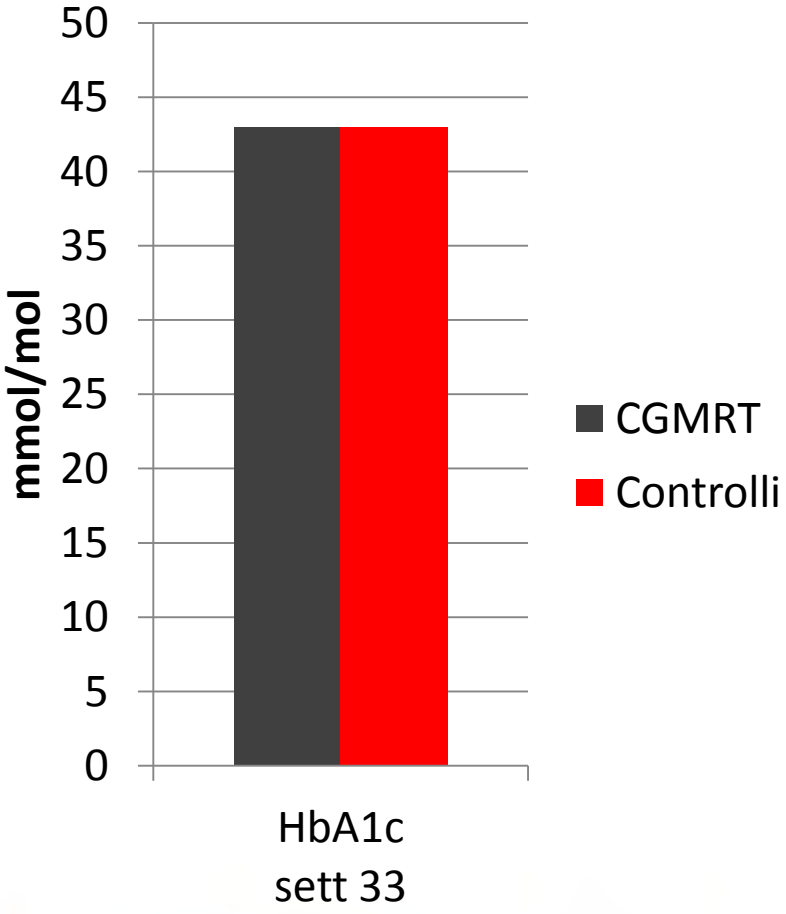
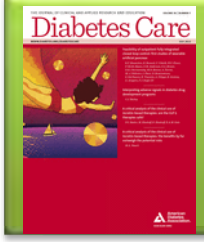
Diabetes Care 36:1877–1883, 2013

Secher et al, 2013
CONTROLLO GLICEMICO







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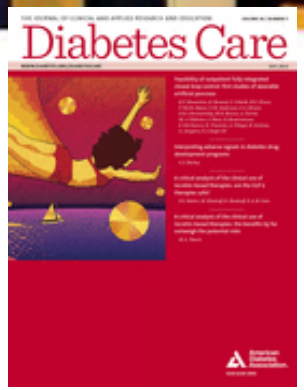
Diabetes Care 36:1877–1883, 2013

Secher et al, 2013
ESITO DELLA GRAVIDANZA

	RTCGM	Controlli	P
aborto spontaneo	4%	3%	1.00
pre-termine	21%	16%	0.47
LGA	45%	34%	0.19
ipoglicemia neonatale	36%	40%	0.62
ipoglicemia neonatale grave	13%	14%	0.88



Continuous Glucose Monitoring in Pregnancy: We Have the Technology but Not All the Answers

DIABETES CARE, VOLUME 36, JULY 2013

HELEN R. MURPHY

COMMENTARY (SEE SECHER ET AL., P. 1877)

- ✓ For clinicians hoping that CGM may help to improve maternal/fetal outcomes, the current results are disappointing.
- ✓ Acceptance of, and compliance with, CGM in unselected pregnant women was poor. It is also possible that intermittent use of real-time CGM is not beneficial.
- ✓ Clearly, more data are required before routine clinical use of CGM in pregnancy can be fully endorsed.

2011, 13:1109-13

Is There a Difference in Pregnancy and Glycemic Outcome in Patients with Type 1 Diabetes on Insulin Pump with Constant or Intermittent Glucose Monitoring? A Pilot Study

Goran Petrovski, M.D., Ph.D., Cedomir Dimitrovski, M.D., Ph.D., Milco Bogoev, M.D., Ph.D., Tatjana Milenkovic, M.D., Ph.D., Irfan Ahmeti, M.D., and Iskra Bitovska, M.D., M.S.

RANDOM:

C= Sensore 24 h/dì

I = Sensore 14 gg/m

	CGM		
	Constant group (n=12)	*Intermittent group (n=13)*	P *value*
Age (years)	29.6±3.1	30.1±2.8	NS
Duration of diabetes (years)	11.2±1.7	9.4±1.2	NS
Prior BMI (kg/m^2)	22.8±1.6	23.7±2.1	NS
Smoking habit	15.4±1.1	12.3±0.9	NS
Prior pregnancy (%)	11.5±1.7	14.6±1.2	<0.05
Prior miscarriage (total number)	2	0	NS
Prior macrosomia (total number)	1	2	NS

HbA1c %

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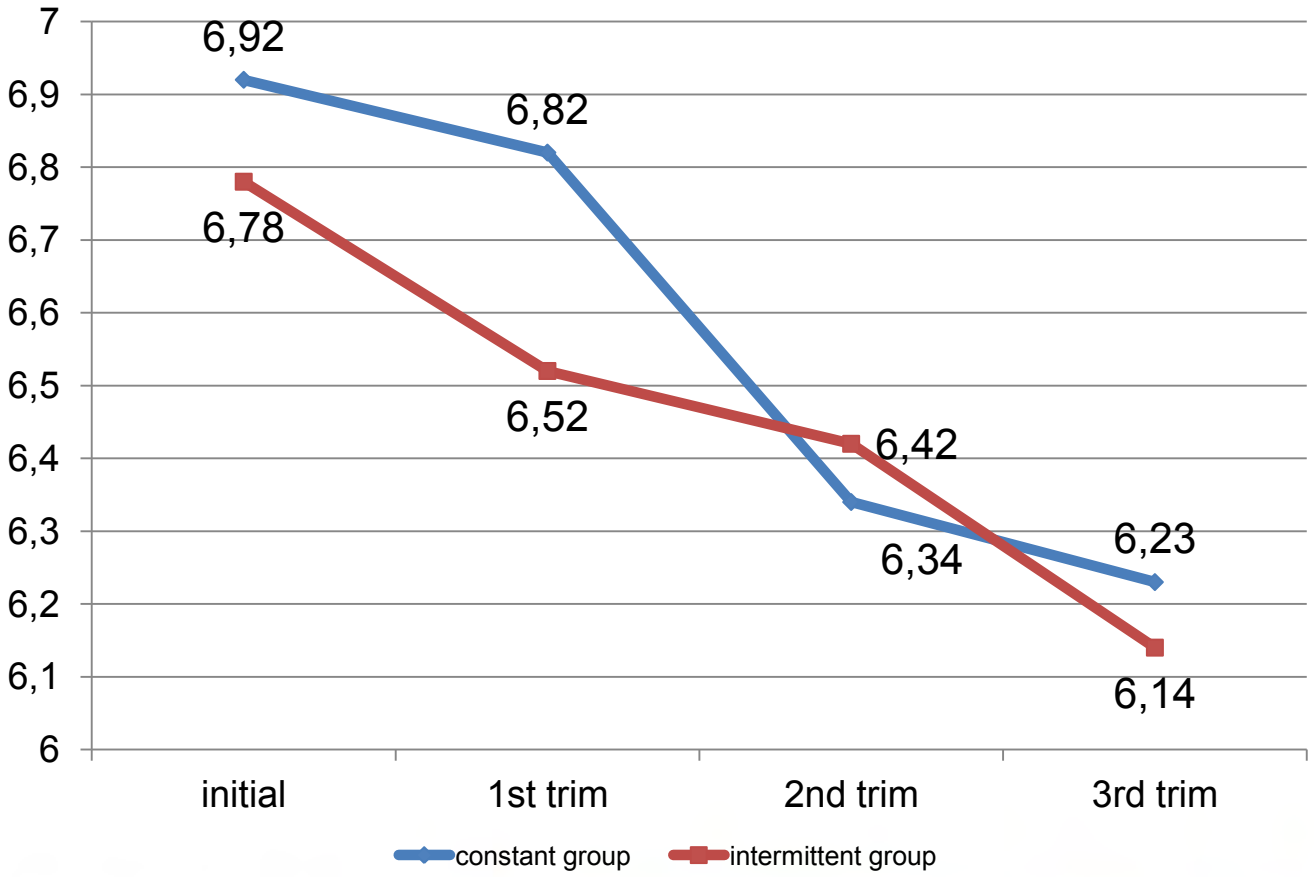
Non differenze
Non a target



SAP THERAPY

OUTCOME

2011, 13:1109-13

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	CGM		
	Constant group (n=12)	*Intermittent group (n=13)*	P *value*
Weight gain (kg)	13.4±3.1	12.9±2.8	NS
Severe hypoglycemic events (total number)	1	2	<0.05
DKA (total number)	0	1	<0.05
Preterm birth (%)	7.9	9.3	NS
Cesarean section (%)	44.3	55.1	NS
Macrosomia (%)	8.6	9.8	NS
Neonatal hypoglycemia (total number)	0	0	NS

2011, 13:1109-13

Is There a Difference in Pregnancy and Glycemic Outcome in Patients with Type 1 Diabetes on Insulin Pump with Constant or Intermittent Glucose Monitoring? A Pilot Study

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Conclusions:

- **Insulin pump therapy together with constant or intermittent CGM can improve diabetes control and pregnancy outcome in type 1 diabetes.**
- **The quality of the glucose profile at conception was the important factor for pregnancy outcome.**

2014, 31: 352–356

Short Report: Treatment

Real-time continuous glucose monitoring as a tool to prevent severe hypoglycaemia in selected pregnant women with Type 1 diabetes – an observational study

A. L. Secher[1,2,3], E. Stage[1,4], L. Ringholm[1,2], C. Barfred[1,4], P. Damm[1,3,4] and E. R. Mathiesen[1,2,3]

- **CGM RT in 12 donne con storia di ipo maggiori pre-gravidanza**
- **Gruppo di controllo di 16 donne con SMBG**
- **Non random**
- **Trattamento prevalentemente MDI (2 con CSII)**
- **Uso del sensore sostanzialmente retrospettivo e per tempo limitato (mediana 10 settimane a partire dalla 10ª)**

2014, 31: 352–356

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	Incidenza ipo severe (eventi/paz/anno)		
	pre-grav	grav iniziale	in studio
CGM	2.8	17.5	0.3
SMBG	1.6	5.0	0.1

STUDI PIU' RECENTI:
PCGM in GDM e PRE-GDMT2

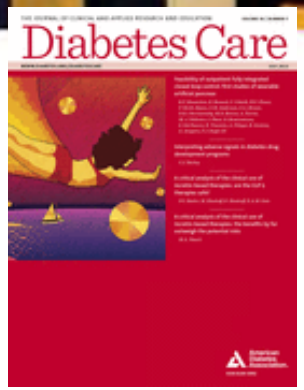
2014, 99:4674-82

Continuous Glucose Monitoring Effects on Maternal Glycemic Control and Pregnancy Outcomes in Patients With Gestational Diabetes Mellitus: A Prospective Cohort Study

Fan Yu,* Lijuan Lv, Zhijiang Liang, Yi Wang, Jiying Wen, Xiaohong Lin, Yuheng Zhou, Caiyuan Mai, and Jianmin Niu*

Clinical use of continuous glucose monitoring system in gestational diabetes mellitus and type 2 diabetes complicated with pregnancy].

Song Y, Yang H **Zhonghua fu chan ke za zhi 2014,49:579-83**



Continuous Glucose Monitoring in Pregnancy: We Have the Technology but Not All the Answers

DIABETES CARE, VOLUME 36, JULY 2013

HELEN R. MURPHY

COMMENTARY (SEE SECHER ET AL., P. 1877)

- An international Continuous Glucose Monitoring In Women with Type 1 Diabetes in Pregnancy Trial (CONCEPTT) will now evaluate the role of continuous real-time CGM before and during pregnancy. It is not the devices per se but how patients, their spouses/significant others, and health professionals interact with CGM that will likely determine outcomes.
- At this point in time we have the technology, but we don't have all the answers.

JDRF Juvenile Diabetes Research Foundation International

dedicated to finding a cure

Eligibility:

- TID
- ≥8 yrs of age
- HbAlc ≤ 10.0%
- Not Pregnant or planning pregnancy
- Naïve to sensor use

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Continuous Glucose Monitoring and Intensive Treatment of Type 1 Diabetes

The Juvenile Diabetes Research Foundation Continuous Glucose Monitoring Study Group*

Clinical Care/Education/Nutrition/Psychosocial Research

ORIGINAL ARTICLE

The Effect of Continuous Glucose Monitoring in Well-Controlled Type 1 Diabetes

Juvenile Diabetes Research Foundation Continuous Glucose Monitoring Study Group*

tion (JDRF) Continuou
toring Study Group re
substantially improved
out increasing the frequ

Emerging Treatments and Technologies

BRIEF REPORT

Variation of Interstitial Glucose Measurements Assessed by Continuous Glucose Monitors in Healthy, Nondiabetic Individuals

Juvenile Diabetes Research Foundation Continuous Glucose Monitoring Study Group*

years old; BMI 10th to 90th percentile for age and sex for subjects <18 years old (based on 2000 Centers for Disease Control and Prevention (CDC) nomogram)

Emerging Treatments and Technologies

BRIEF REPORT

Sustained Benefit of Continuous Glucose Monitoring on A1C, Glucose Profiles, and Hypoglycemia in Adults With Type 1 Diabetes

The Juvenile Diabetes Research Foundation Continuous Glucose Monitoring Study Group*

or FreeStyle Navigator (Abbott Diabetes Care, Alameda, CA). Follow-up visits during the extension study occurred at 9 and 12 months postrandomization.

Clinical Care/Education/Nutrition/Psychosocial Research

ORIGINAL ARTICLE

Prolonged Nocturnal Hypoglycemia Is Common During 12 Months of Continuous Glucose Monitoring in Children and Adults With Type 1 Diabetes

Juvenile Diabetes Research Foundation Continuous Glucose Monitoring Study Group*

causes of severe nocturnal hypoglycemic events.

Studies that used retrospective and real-time continuous glucose monitoring

Asp

CONCEPTT

Lei ha il Diabete di Tipo 1?

- E' in gravidanza o sta programmando una gravidanza?

In tal caso Lei potrebbe essere considerata per partecipare a questo studio di ricerca internazionale!

CONCEPTT è uno studio che mette a confronto gli effetti dell'aggiunta del Monitoraggio Continuo del Glucosio ("Continuous Glucose Monitoring, CGM") alla terapia standard rispetto alla sola terapia standard, in donne che sono in gravidanza o che stanno programmando una gravidanza.

Principal Investigator: **Dr. Denice Feig**, Mount Sinai Hospital

CONCEPTT Coordinating Center
The Centre for Mother, Infant, and Child Research (CMICR)
Sunnybrook Research Institute
C8-2075 Bayview Avenue |Toronto, ON |M4N 3M5
Email: conceptt@sunnybrook.ca
Website: www.conceptt.ca

Per maggiori informazioni riguardo allo studio CONCEPTT, La preghiamo di contattare il coordinatore locale al seguente recapito:

Sponsored by:

JDRF · Canadian Clinical Trial Network · MOUNT SINAI HOSPITAL Joseph and Wolf Lebovic Health Complex · Sunnybrook Research Institute

CONCEPTT Poster Version 3

CONCEPTT

Continuous Glucose Monitoring in Women with Type 1 Diabetes in Pregnancy Trial

INTERNATIONAL CENTRES

Enrollment is expected to include 110 women with type 1 diabetes who are planning pregnancy and approximately 214 women with type 1 diabetes who are pregnant

CANADA

- Alberta Health Services
- Mount Sinai Hospital
- St Joseph's Health Care
- St Michael's Hospital
- Sunnybrook Health Sciences Centre
- The Ottawa Hospital

ITALY

- Livorno Hospital
- **Milano Niguarda Ca'Granda Hospital**
  - **Bergamo Giovanni XXIII Hospital**
  - **Torino S.Anna Hospital**
- Padova University

ISRAEL

- Rabin Medical Center

SPAIN

- Hospital De La Santa Creu I Saint Paul

UNITED KINGDOM

- Addenbrookes Hospital
- Ipswich Hospital NHS Trust
- King's College London
- Norfolk and Norwich University Hospital

UNITED STATES OF AMERICA

- Sansum Diabetes Research Institute

CONCEPTT

Primary Objective

The primary objective of the study is to determine if RT-CGM can improve glycemic control in women with T1D who are pregnant or planning pregnancy without substantially increasing the rate of hypoglycemia.

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Synopsis of Study Protocol

- The study will be two parallel trials, multi-center, randomized, open label, controlled trials with an intention-to-treat analysis.
- Women with type 1 diabetes in pregnancy who are <13 weeks 6 days gestation, and women planning pregnancy, who pass the run-in period, will be eligible to be randomized.
- Eligible women will be randomized to receive RT-CGM along with their standard intensive insulin regimen, or continue on their standard intensive insulin regimen without RT-CGM.

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Main Outcome Measures

- **For Pre-pregnant Group:**
  - **Glycemic control as measured by HbA1c at 24 weeks or at conception. If the patient becomes pregnant, than a HbA1c will be measured post-confirmation of a positive pregnancy test and will contribute to the primary outcome.**
- **For Pregnant Group:**
  - **Glycemic control as measured by HbA1c at 34 weeks gestation. In women who do not progress to 34 weeks gestation, the latest measured HbA1c will be used to contribute to the primary outcome: this HbA1c will act as the entry for the pregnant phase.**

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Secondary Outcome Measures

- For Pre-pregnant Group: glycemic control
- For Pregnant Group
  - Glycemic control
  - Obstetrical outcomes
- Outcomes for both groups
  - Area under the curve (AUC)
  - Incidence of clinical events
  - Measures of glucose variability
  - Length of hospital stay
  - Safety Outcome
- Infant Outcomes: 15 items

SAP THERAPY

CONCEPTT

Monthly Recruitment Update

Total for recruits in November	**15** (6 Pre-pregnant / 9 Pregnant)
Total recruits overall	**146** (93 Pre-pregnant / 53 Pregnant)
Recruits Remaining	**178** (17 Pre-pregnant / 161 Pregnant)

Recruiting Sites in the Last Month

Country	Centre	Number of Recruits
Canada	**Mount Sinai Hospital**, Toronto, Canada (Dr Denice Feig and team)	1 Pre-pregnant
Canada	**The Ottawa Hospital**, Ottawa (Dr Erin Keely and team)	2 Pregnant
Canada	**St. Joseph's Health Care**, London (Dr Ruth McManus and team)	1 Pre-pregnant
Canada	**Alberta Health Services**, Calgary (Dr Lois Donovan and team)	1 Pre-pregnant / 1 Pregnant
Italy	**Niguarda ca' Granda Hospital**, Milan (Dr Matteo Andrea Bonomo and team)	2 Pregnant
Spain	**Hospital De La Santa Creu I Sant Pau**, Barcelona (Dr Rosa Corcoy and team)	1 Pregnant
UK	**Norfolk and Norwich University Hospital**, Norwich (Dr Jeremy Turner and team)	3 Pregnant

RECLUTAMENTO AL 30/11/1914

Aspetti educazionali e psicologici

ALGORITMI PER MDI E CSII + RTCGM

Linee guida per la regolazione delle dosi di insulina
Uso del sensore in tempo reale
Terapia insulinica multi-iniettiva (MDI)

Linee guida per la regolazione delle dosi di insulina
Uso del sensore in tempo reale
Per soggetti in terapia con pompa insulinica

- ❑ Definizione target glicemici
- ❑ Calcolo del bolo-pasto (CHO counting + correzione)
- ❑ Calcolo della correzione fuori pasto
- ❑ Regolazione basale CSII o anlogo long-acting
- ❑ Gestione allarmi ipo-iper (assoluti e predittivi)

ALGORITMO MDI + RTCGM, UN ESEMPIO: USO DELLE «FRECCE»

Calcolo della correzione del bolo fuori pasto

- Calcolare normalmente la quantità di insulina ad azione rapida necessaria a correggere per la glicemia alta.

- Controllare la freccia RT-CGM e apportare le seguenti correzioni al quantitativo totale di insulina ad azione rapida appena calcolato per coprire la glicemia alta:

↑↑ (tasso di aumento > 2 mg/dL/min)	Aumentare la dose del 20%
↑ (tasso di aumento 1-2 mg/dL/min)	Aumentare la dose del 10%
→ (nessuna variazione)	Nessuna modifica alla dose di insulina ad azione rapida
↓ (tasso di diminuzione 1-2 mg/dL/min)	Aumentare la dose del 10%
↓↓ (tasso di diminuzione > 2 mg/dL/min)	Aumentare la dose del 20%

SAP THERAPY

Effectiveness of continuous glucose monitoring during diabetic pregnancy (GlucoMOMS trial); a randomised controlled trial

Voormolen *et al.*

BioMed Central

Voormolen *et al. BMC Pregnancy and Childbirth* 2012, **12**:164
http://www.biomedcentral.com/1471-2393/12/164

Aspetti educazionali e psicologici

CONSIDERAZIONI CONCLUSIVE

- **Grandi potenzialità della SAP come metodo di ottimizzazione del controllo metabolico in gravidanza**
- **Completa mancanza di studi pubblicati, con l'eccezione di casi clinici aneddotici**
- **Pochi RCT riguardanti o PCGM (positivi) o RTCGM utilizzato in modo retrospettivo (deludenti)**
- **Attesa dagli studi in corso di svolgimento**
- **GRANDE E' LA CONFUSIONE SOTTO IL CIELO … LA SITUAZIONE E' ECCELLENTE**

grazie