



VI CONVEGNO NAZIONALE
CENTRO STUDI E RICERCHE - FONDAZIONE AMD

NAPOLI, 18-20 OTTOBRE 2012



CENTRO CONGRESSI
STAZIONE MARITTIMA



L'autocontrollo strutturato nel GDM

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1979

Self-monitoring of blood glucose in diabetic pregnancy

I PEACOCK, J C HUNTER, S WALFORD, S P ALLISON, J DAVISON, P CLARKE,
E M SYMONDS, R B TATTERSALL

British Medical Journal, 1979, 2, 1333-1336

Admission to hospital is usually recommended to achieve the best possible diabetic control during pregnancy. We have used blood glucose monitoring at home to find out if patients can achieve equally good control outside hospital. Twenty-five consecutive diabetic patients were

Monitoring blood glucose concentrations at home produces greater understanding and motivation among patients, improves control early in pregnancy, and shortens time spent in hospital.

2012

Obiettivo : appropriatezza dell'autocontrollo nel GDM



- Incremento della popolazione obesa e con fattori di rischio per diabete
- Obesità e diabete in età giovanile
- Nuovi criteri di screening e diagnosi



Incremento popolazione con diagnosi di GDM



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Linee guida 2010-2011

International Association of Diabetes and Pregnancy Study Groups Recommendations on the Diagnosis and Classification of Hyperglycemia in Pregnancy

DIABETES CARE, VOLUME 33, NUMBER 3, MARCH 2010

INTERNATIONAL ASSOCIATION OF DIABETES
AND PREGNANCY STUDY GROUPS
CONSENSUS PANEL*



CONFERENZA NAZIONALE DI CONSENSO
PER
RACCOMANDAZIONI E IMPLEMENTAZIONE DELLE NUOVE LINEE
GUIDA PER LO SCREENING E LA DIAGNOSI DEL DIABETE
GESTAZIONALE (GDM)

marzo 2010





Incremento della Prevalenza del GDM

Table 1 IADPSG, WHO and ADA criteria for diagnosis of GDM

| Test | IADPSG GDM (any 1 of) | ADA GDM (at least 2 of) ^a | WHO IFG/IGT (any 1 of) |
|-----------------------------|--------------------------|---|---------------------------|
| Fasting glucose (mmol/l) | ≥5.1 | ≥5.3 | ≥6.1 |
| 1 h glucose (mmol/l) | ≥10 | ≥10 | |
| 2 h glucose (mmol/l) | ≥8.5 | ≥8.6 | ≥7.8 |

Gestational Diabetes Mellitus

Simplifying the International Association of Diabetes and Pregnancy diagnostic algorithm using fasting plasma glucose

MUKESH M. AGARWAL, MD, FCAP¹
GURDEEP S. DHATT, FRCPATH²
SYED M. SHAH, MD, PHD³

Diabetes Care 33:2018–2020, 2010

n° pz. 10 283

Criteria IADPSG vs ADA

ADA-GDM : 12,9%

IADPSG –GDM: 37,7%

Atlantic Diabetes in Pregnancy (DIP): the prevalence and outcomes of gestational diabetes mellitus using new diagnostic criteria

E. P. O’Sullivan • G. Avalos • M. O’Reilly •
M. C. Denney • G. Gaffney • F. Dunne •
on behalf of the Atlantic DIP collaborators

Diabetologia (2011) 54:1670–1675

n° pz. 5500

Criteria IADPSG vs WHO

WHO-GDM : 9,4%

IADPSG –GDM: 12,4%

e peggiori outcome

avversi materno fetali



Incremento della Prevalenza del GDM

New International Association of the Diabetes and Pregnancy Study Groups (IADPSG) recommendations for diagnosing gestational diabetes compared with former criteria: a retrospective study on pregnancy outcome

A. Lapolla, M. G. Dalfrà, E. Ragazzi*, A. P. De Cata and D. Fedele

Diabet. Med. 28, 1074–1077 (2011)

n° 3953 gravidanze

| | Vecchia diagnosi | Nuova diagnosi | Differenza |
|-------------|------------------|----------------|---------------|
| GDM | 35.4% | 54.1% | +18.7% |
| GIGT | 15.9% | - | -15.9% |
| NGT | 48.7% | 45.9% | - 2.8% |

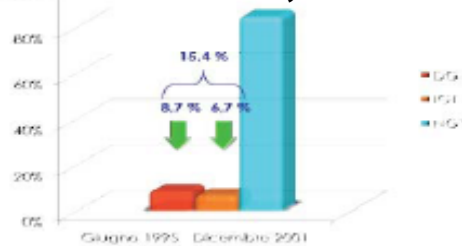


Incremento della Prevalenza del GDM

Variatione prevalenza DG

INCREMENTO DELLA PREVALENZA → + 33,8 %

IGT+GDM 16,4%



Precedenti criteri

20,6%



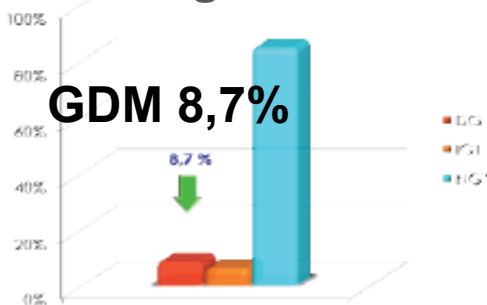
Nuovi criteri

- Aumento di prevalenza GDM
- L'aumento appare di minore entità se confrontato con le varie categorie di AGT previste dalla precedente procedura

INCREMENTO DELLA PREVALENZA → + 136,8 %

n° 3950 gravidanze

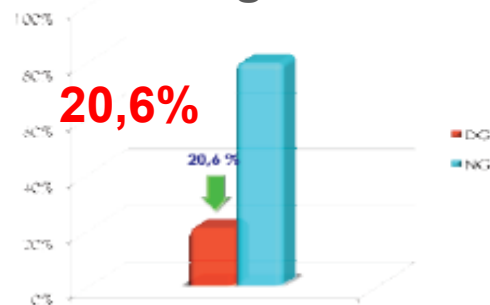
GDM 8,7%



Precedenti criteri

n° 660 gravidanze

20,6%



Nuovi criteri

Lacaria, diCianni et al
Atti Congresso
AMD 2011



Prevalenza del GDM

Correspondence between first-trimester fasting glycaemia, and oral glucose tolerance test in gestational diabetes diagnosis

F. Corrado^{a,*}, R. D'Anna^a, M.L. Cannata^a, M.L. Interdonato^a, B. Pintaudi^b, A. Di Benedetto^b

n° 738 gravidanze

Prevalenza GDM con nuovi criteri 15,8%
(Glicemia a digiuno > 92 mg/dl: 3,9%; OGTT: 11,9%)



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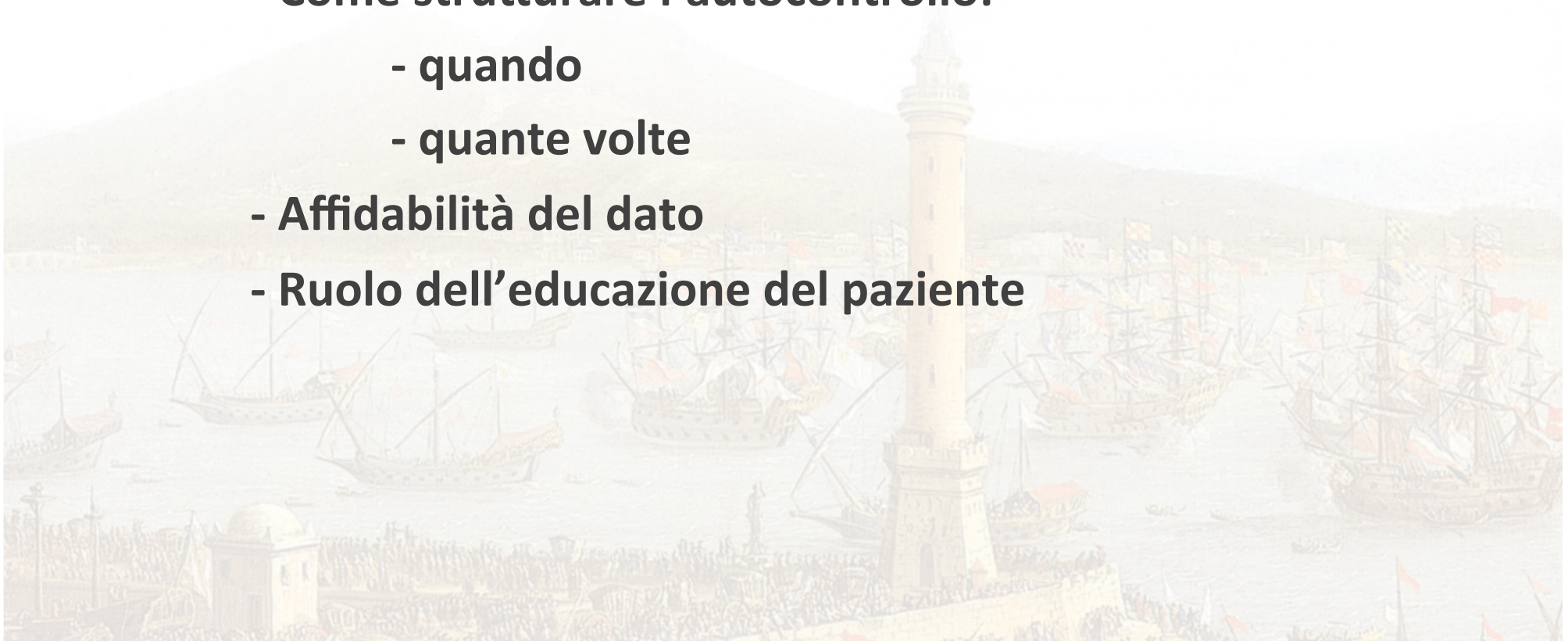


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Indice

- **Efficacia monitoraggio glicemico**
- **Obiettivi glicemici**
- **Come strutturare l'autocontrollo:**
 - **quando**
 - **quante volte**
- **Affidabilità del dato**
- **Ruolo dell'educazione del paziente**





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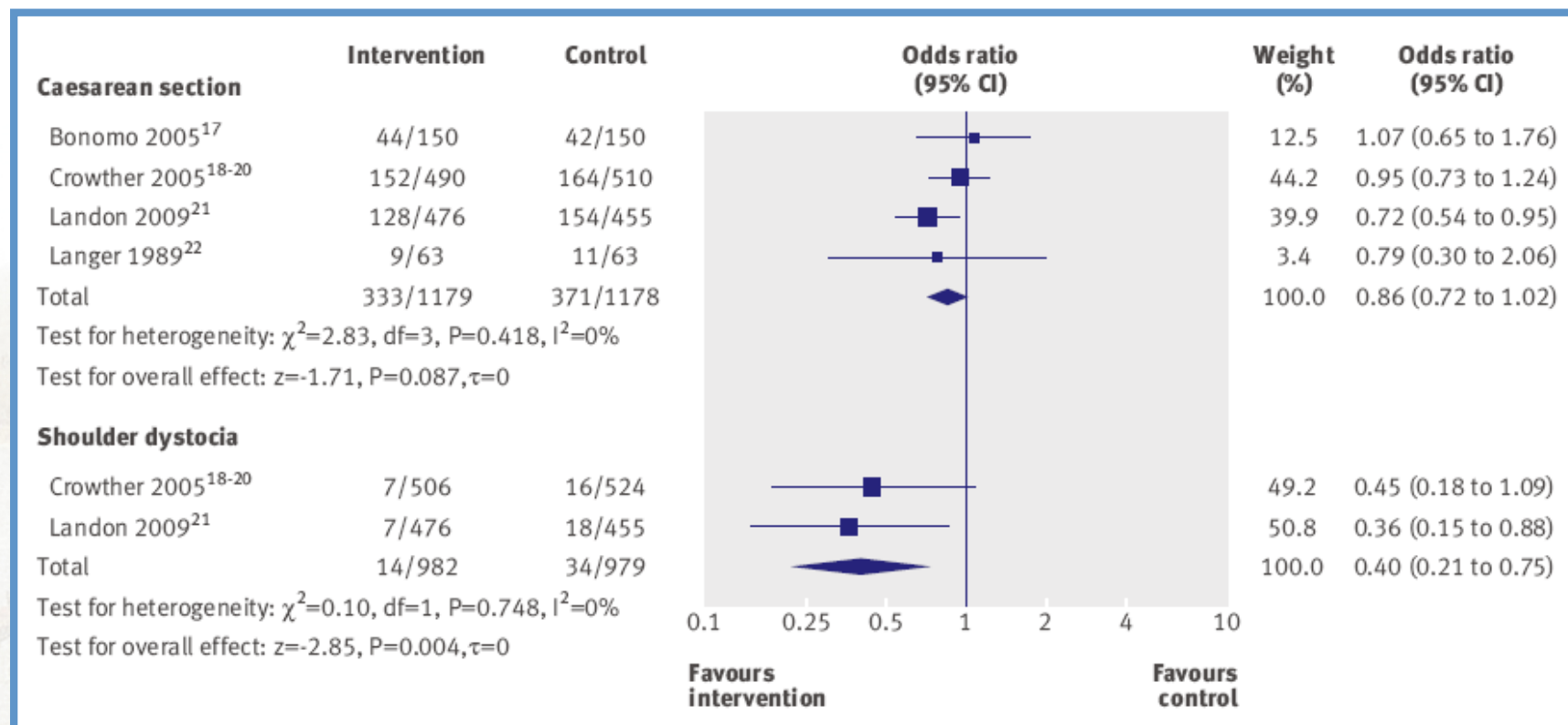


Efficacia dell'autocontrollo



Effects of treatment in women with gestational diabetes mellitus: systematic review and meta-analysis

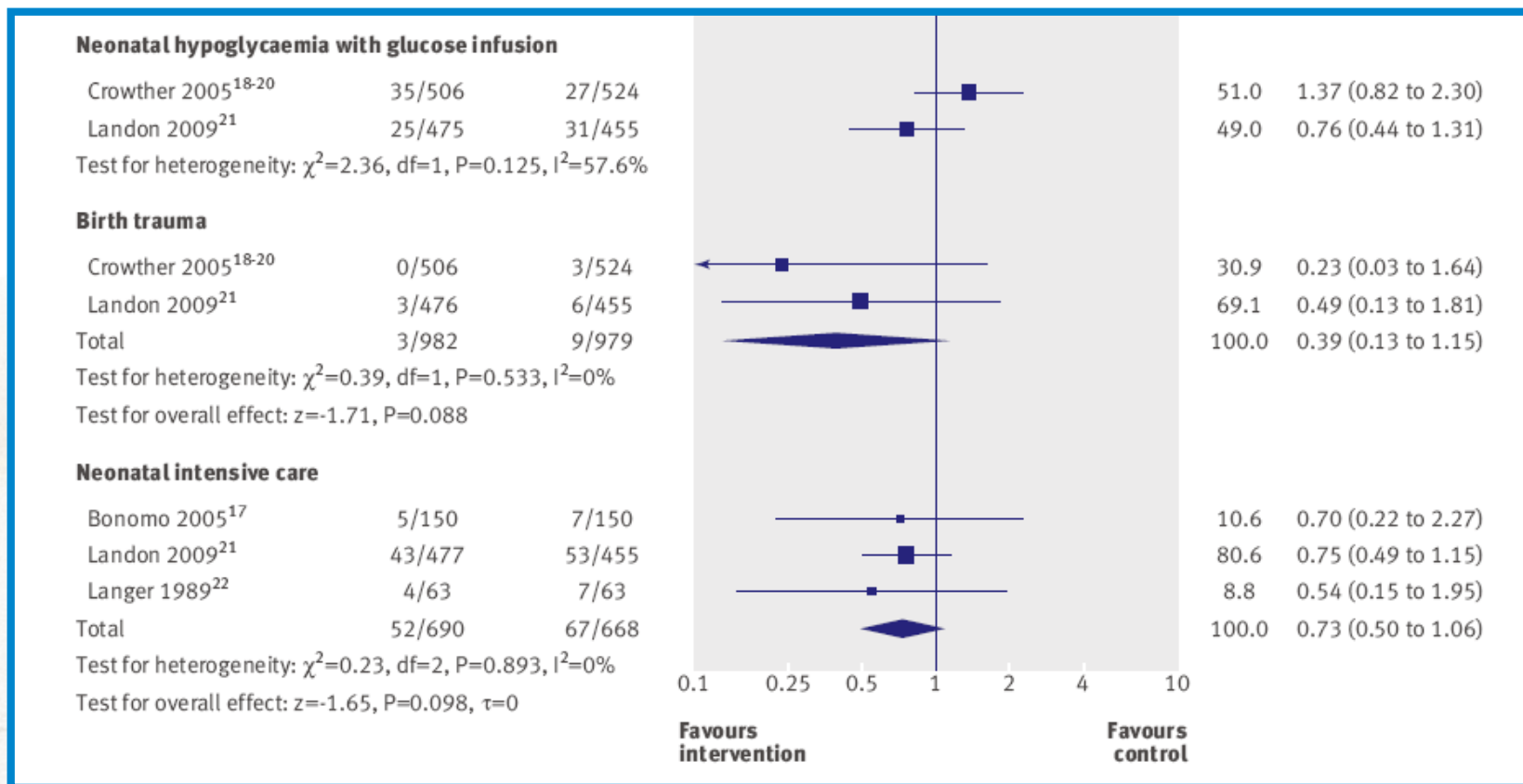
Outcomes materni





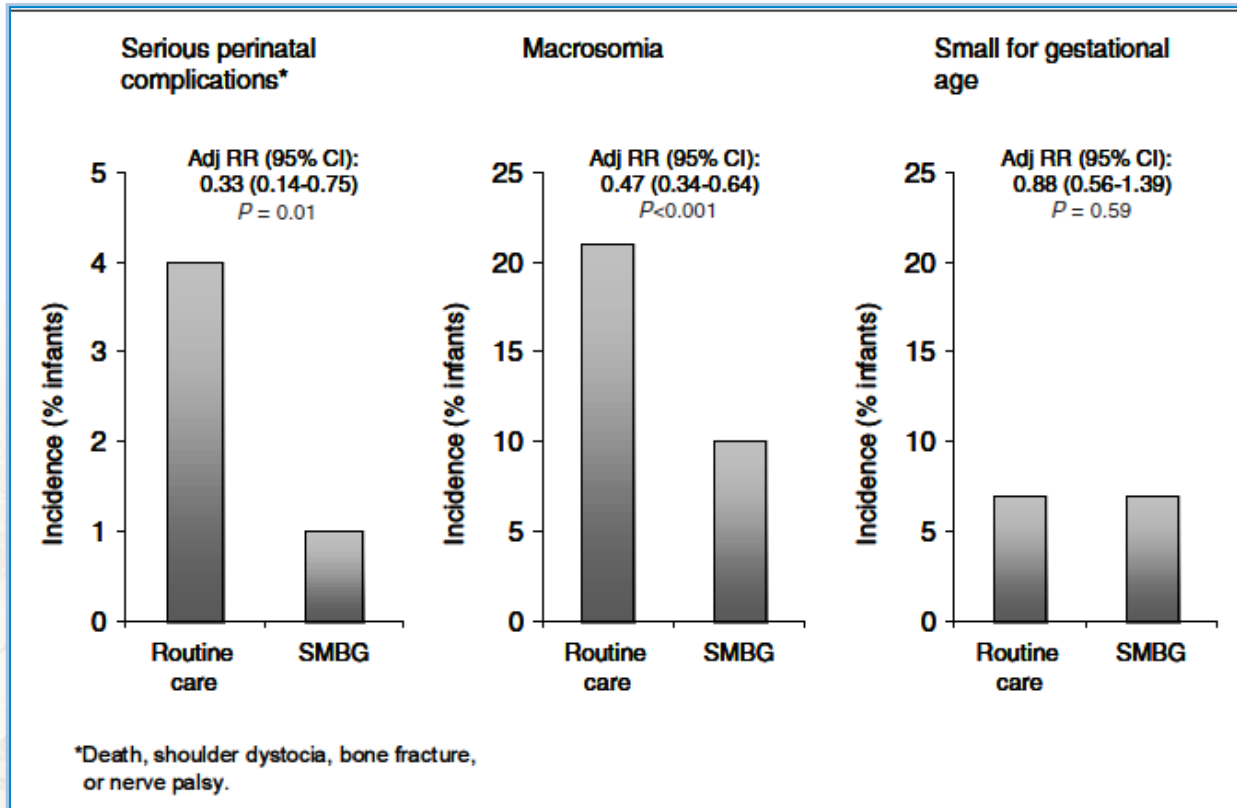
Effects of treatment in women with gestational diabetes mellitus: systematic review and meta-analysis

Outcomes neonatali





Effect of treatment of gestational diabetes mellitus on pregnancy outcomes



Autocontrollo: 4 controlli /die (a digiuno e 2h post-P)



Gestational diabetes: The consequences of not treating

Table II Pregnancy outcome in untreated and treated gestational diabetic and nondiabetic subjects

| | Group 1: untreated GDM (n = 555) | Group 2: treated GDM (n = 1110) | Group 3: nondiabetic (n = 1110) | OR (95% CI) [†] | OR (95% CI) [‡] |
|---------------------------------|-------------------------------------|------------------------------------|------------------------------------|--------------------------|--------------------------|
| Birth weight (g) | 3600 ± 540* | 3266 ± 538 | 3312 ± 601 | — | — |
| Macrosomia | 93 (17) | 78 (7) | 87 (8) | 2.66 (1.93-3.67) | 1.13 (0.82-1.55) |
| LGA | 163 (29) | 119 (11) | 125 (11) | 3.28 (2.53-4.6) | 1.06 (0.81-1.38) |
| Ponderal Index more than 2.85 | 120 (22) | 153 (14) | 140 (13) | 1.91 (1.46-2.50) | 1.10 (0.86-1.41) |
| Arterial cord pH less than 7.20 | 82 (15) | 160 (14) | 158 (14) | 1.05 (0.79-1.41) | 1.02 (0.80-1.29) |
| Composite outcome | 327 (59) | 197 (18) | 126 (11) | 11.20 (8.71-14.39) | 1.69 (1.33-2.15) |
| Overall metabolic complications | 161 (29) | 110 (10) | 46 (4) | 19.32 (12.29-30.34) | 5.25 (3.32-8.30) |
| Hypoglycemia | 100 (18) | 67 (6) | 21 (2) | 10.38 (6.51-16.56) | 2.98 (1.84-4.84) |
| Hyperbilirubinemia | 78 (14) | 40 (3.6) | 23 (2) | 3.87 (2.64-5.67) | 1.13 (0.73-1.74) |
| Erythrocytosis | 72 (13) | 24 (2.2) | 16 (1.4) | 10.88 (6.16-19.18) | 1.61 (0.84-3.09) |
| Respiratory complication | 67 (12) | 22 (2) | 33 (3) | 4.40 (2.86-6.78) | 1.51 (0.87-2.61) |
| Shoulder dystocia | 14 (2.5) | 10 (0.9) | 7 (0.6) | 4.07 (1.63-10.16) | 1.43 (0.54-3.78) |
| Stillbirth (1/1000) | 5.4 | 3.6 | 1.8 | 1.91 (0.27-14.08) | 2.00 (0.18-22.10) |
| Overall cesarean section | 132 (24) | 258 (23) | 158 (14) | 1.88 (1.45-2.43) | 1.82 (1.47-2.27) |

Data presented as n (%) unless indicated otherwise.

* Group 1 greater than group 2 equal to group 3 ($P = .01$).

[†] Untreated GDM versus nondiabetic subjects.

[‡] Treated GDM versus nondiabetic subjects.

Autocontrollo : 7 controlli/die (pre-P e 2h post-P)

Langer O Am J Obstet Gynecol 192:989, 2005



A Multicenter, Randomized Trial of Treatment for mild Gestational Diabetes

Outcomes secondari neonatali

| Outcome Variable | Treatment Group (N=485) | Control Group (N=473) | Relative Risk (97% CI) | P Value |
|--|----------------------------|--------------------------|---------------------------|---------|
| Birth weight — g | 3302±502.4 | 3408±589.4 | | <0.001 |
| Birth weight >4000 g — no./total no. (%) | 28/477 (5.9) | 65/454 (14.3) | 0.41 (0.26–0.66) | <0.001 |
| Large for gestational age — no./total no. (%)† | 34/477 (7.1) | 66/454 (14.5) | 0.49 (0.32–0.76) | <0.001 |
| Fat mass — g | 427.0±197.9 | 464.3±222.3 | | 0.003 |

Outcomes secondari materni

| Outcome Variable | Treatment Group (N=476) | Control Group (N=455) | Relative Risk (97% CI) | P Value |
|--|----------------------------|--------------------------|---------------------------|---------|
| Induction of labor — no. (%) | 130 (27.3) | 122 (26.8) | 1.02 (0.81–1.29) | 0.86 |
| Cesarean delivery — no. (%) | 128 (26.9) | 154 (33.8) | 0.79 (0.64–0.99) | 0.02 |
| Shoulder dystocia — no. (%) | 7 (1.5) | 18 (4.0) | 0.37 (0.14–0.97) | 0.02 |
| Preeclampsia — no. (%) | 12 (2.5) | 25 (5.5) | 0.46 (0.22–0.97) | 0.02 |
| Preeclampsia or gestational hypertension — no. (%) | 41 (8.6) | 62 (13.6) | 0.63 (0.42–0.96) | 0.01 |
| Body-mass index at delivery† | 31.3±5.2 | 32.3±5.2 | | <0.001 |
| Weight gain — kg‡ | 2.8±4.5 | 5.0±3.3 | | <0.001 |

Autocontrollo: 4 controlli /die (a digiuno e 2h post-P)

Landon MB NEJM 361: 1339, 2009



Weekly compared with daily blood glucose monitoring in women with diet treated gestational diabetes

Pegnancy outocomes

| Characteristics | Weekly (n=675) | Daily (n=315) | P |
|------------------------------------|-------------------|------------------|-----|
| Gestational age at delivery (wk) | 39.4±1.8 | 39.3±1.8 | .42 |
| Labor induction | 78 (11.6) | 25 (7.9) | .08 |
| Vaginal delivery | 453 (67.1) | 199 (63.2) | .22 |
| Forceps | 25 (3.7) | 7 (2.2) | .22 |
| Third- or fourth-degree laceration | 47 (7.0) | 13 (4.1) | .08 |
| Shoulder dystocia | 13 (1.9) | 5 (1.6) | .71 |
| Cesarean delivery | 222 (32.9) | 116 (36.8) | .22 |
| Repeat | 137 (20.3) | 70 (22.2) | .49 |
| Dystocia | 36 (5.3) | 18 (5.7) | .81 |
| Nonreassuring fetal heart tracing | 12 (1.8) | 7 (2.2) | .64 |
| Other | 37 (5.5) | 21 (6.6) | .46 |

Data are mean±standard deviation or n (%).

Neonatal outocomes

| Characteristic | Weekly (n=675) | Daily (n=315) | P |
|---|-------------------|------------------|-------|
| Birth weight (g) | 3,690±612 | 3,536±603 | <.001 |
| More than 4,000 g | 199 (29.5) | 69 (21.9) | .013 |
| Large for gestational age* | 232 (34.4) | 73 (23.1) | <.001 |
| Umbilical artery blood pH less than 7.0 | 5 (0.7) | 4 (1.3) | .40 |
| Erb's palsy | 3 (0.4) | 2 (0.6) | .69 |
| Fractured clavicle | 15 (2.2) | 3 (1.0) | .16 |
| Hyperbilirubinemia | 17 (2.5) | 11 (3.5) | .39 |
| Hypoglycemia | 30 (4.4) | 23 (7.3) | .06 |

Data are mean±standard deviation or n (%).
* Defined as birth weight 90th or greater percentile for gestational age.

Autocontrollo:
1 controllo / sett. a digiuno e post-P ambulatoriale vs
4 controlli /die (Pre-P e bed-time)



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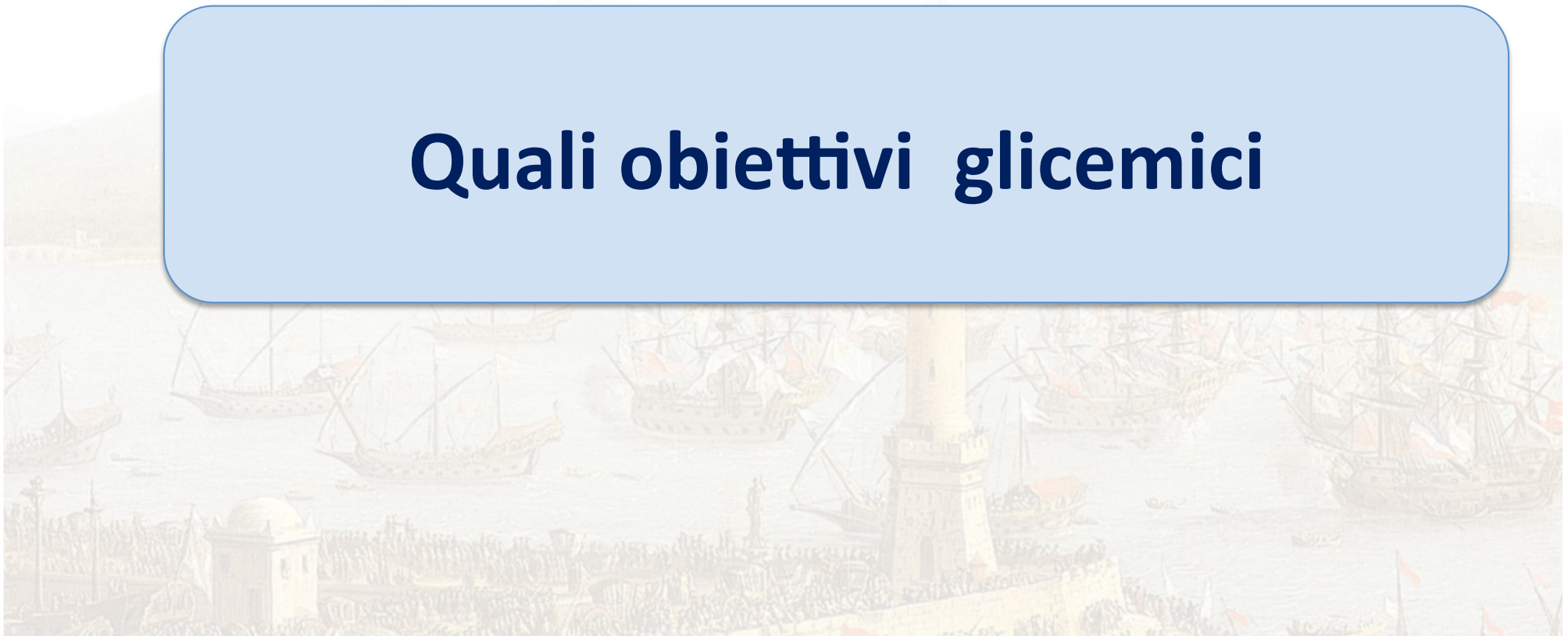
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Quali obiettivi glicemici





Obiettivo: Valori Glicemici Prossimi a Quelli della Gravidanza Fisiologica

Ambulatory Glucose Values in Pregnant Women with Normal Glucose Tolerance

| Study | Subjects (n) | Fasting (mg/dl) | Postprandial (60 min) | Postprandial (peak) |
|-------------------------|---------------------|------------------------|------------------------------|---------------------------------------|
| Parretti 2001 | 51 | 69 (57-81) | 108 (96-120) | |
| Yogev (CGSM) 2004 | 57 | 75 (± 12) | 105 (±13) | 110 (± 16) <i>at 70 ±13 min</i> |

B.E. Metzger, Diabetes Care July 2007



Obiettivi glicemici in Gravidanza

| | ACOG (2001) | A D A (2004) | IV° Intern Workshop (1998) | C D A (2003) | Non diabetic Subjects (Yogev, 2004) |
|-----------------------|----------------|-----------------|----------------------------------|-----------------|--|
| Fasting (mg/dl) | 60-90 | <105 | <95 | | 75 ±12 |
| Premeal (mg/dl) | 60-105 | | | <95 | 78±11 |
| Postmeal (mg/dl) | | | | | |
| 1h | <130-140 | <155 | <140 | <140 | 105±13 |
| 2h | <120 | <130 | <120 | <120 | 97±11 |
| Mean (mg/dl) | 100 | | | | 84±18 |
| Nighttime (mg/ dl) | 60-90 | | | | 68±10 |

Data are means ±1 SD

Picco PostP :
tempo 70 min ±13
glicemia 110 mg/dl



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Obiettivi glicemici in gravidanza



| | Glicemia* (mg/dl) |
|-------------------|-------------------|
| A digiuno | ≤ 95 |
| 1 h dopo il pasto | ≤ 140 |
| 2 h dopo il pasto | ≤ 120 |

*sangue capillare intero



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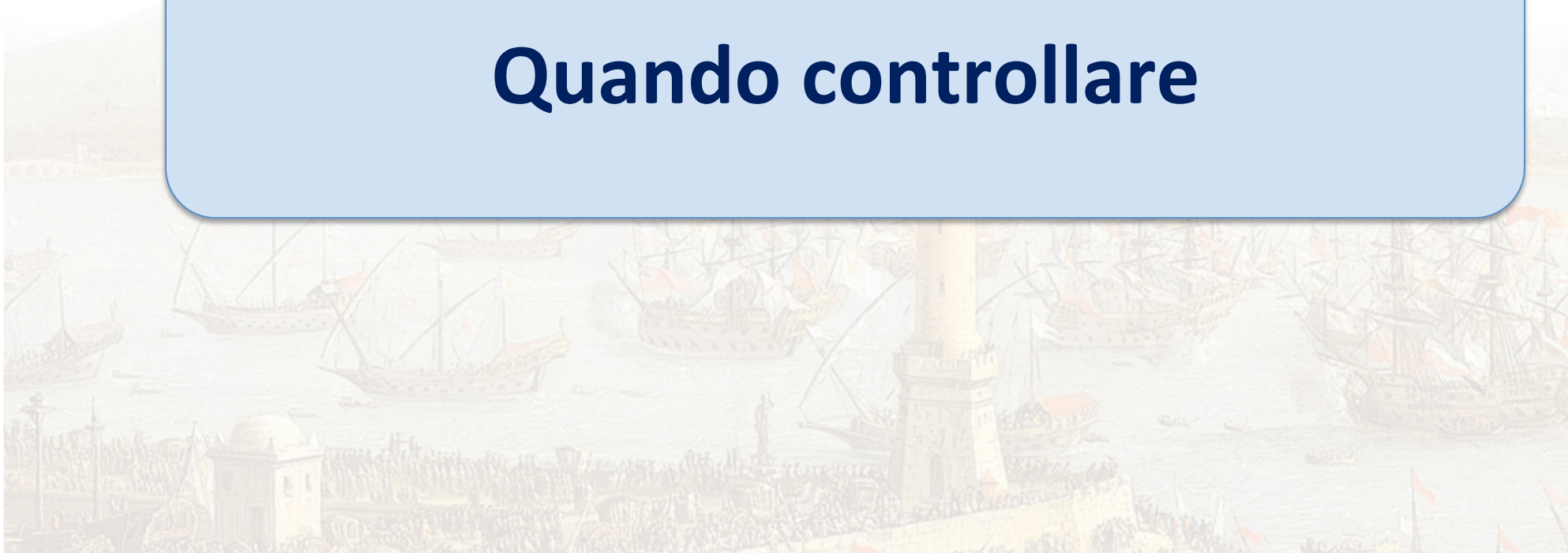
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Quando controllare





Postprandial versus preprandial blood glucose monitoring in women with gestational diabetes mellitus requiring insulin therapy

Outcomes neonatali

| VARIABLE | PREPRANDIAL MONITORING (N = 33) | POSTPRANDIAL MONITORING (N = 33) | RELATIVE RISK (95% CI) | P VALUE |
|----------------------------------|---------------------------------|----------------------------------|------------------------|---------|
| | <i>mean ±SD</i> | | | |
| Birth weight (g) | 3848±434 | 3469±668 | — | 0.01† |
| | <i>number (percent)</i> | | | |
| <u>Large for gestational age</u> | 14 (42) | 4 (12) | 3.5 (1.3–9.5) | 0.01‡ |
| <u>Birth weight >4000 g</u> | 12 (36) | 3 (9) | 4.1 (1.3–13.2) | 0.01‡ |
| Small for gestational age | 0 | 1 (3) | — | 1.00‡ |
| Shoulder dystocia | 6 (18) | 1 (3) | 6.0 (0.8–47.1) | 0.10‡ |
| <u>Neonatal hypoglycemia</u> | 7 (21) | 1 (3) | 7.0 (0.9–53.8) | 0.05‡ |
| <u>Hyperbilirubinemia</u> | 4 (12) | 3 (9) | 1.3 (0.3–5.5) | 1.00‡ |
| Transient tachypnea | 2 (6) | 2 (6) | 1.0 (0.1–6.7) | 1.00‡ |
| Apgar score at 5 min ≤7 | 3 (9) | 1 (3) | 3.0 (0.3–27.4) | 0.61‡ |
| Stillbirth§ | 1 (3) | 0 | — | 1.00‡ |

*CI denotes confidence interval. Infants who were large for gestational age had birth weights above the 90th percentile for gestational age and sex according to population-specific growth curves, and those who were small for gestational age had birth weights below the 5th percentile.

†By Student's t-test.

‡By Fisher's exact test (two-tailed).

§One unexplained stillbirth at 21 weeks; the autopsy was normal.



Postprandial versus preprandial blood glucose monitoring in women with gestational diabetes mellitus requiring insulin therapy

Outcomes materni

| VARIABLE | PREPRANDIAL MONITORING (N = 33) | POSTPRANDIAL MONITORING (N = 33) | RELATIVE RISK (95% CI) | P VALUE |
|--|---------------------------------|----------------------------------|------------------------|---------|
| <i>mean ±SD</i> | | | | |
| Gestational age at delivery (wk) | 37.6±3.8 | 37.9±1.4 | — | 0.16† |
| Maternal weight gain (kg) | 10.7±5.4 | 10.5±5.4 | — | 0.94† |
| Success in glycemic control (%)‡ | 86±4.1 | 88±5.2 | — | 0.62§ |
| Compliance with schedule (%)¶ | 98±1.9 | 95±2.2 | — | 0.76§ |
| Insulin dose | | | | |
| Units/day | 76.8±21.4 | 100.4±29.5 | — | 0.003† |
| Units/kg | 0.9±0.1 | 1.1±0.2 | — | 0.001† |
| Glycosylated hemoglobin (%) | | | | |
| Initial | 8.6±2.3 | 8.9±3.2 | — | 0.55† |
| Final | 8.1±2.2 | 6.5±1.4 | — | 0.006† |
| Change | -0.6±1.6 | -3.0±2.2 | — | <0.001† |
| <i>number (percent)</i> | | | | |
| <u>Cesarean section</u> | | | | |
| Total | 13 (39) | 8 (24) | 1.6 (0.8–3.4) | 0.29** |
| For CPD | 12 (36) | 4 (12) | 3.0 (1.1–8.3) | 0.04** |
| Perineal lacerations (third- or fourth-degree) | 8 (24) | 3 (9) | 2.7 (0.8–9.4) | 0.16** |
| Hospitalization for glycemic control | 3 (9) | 4 (12) | 0.7 (0.2–3.1) | 1.00** |
| Preeclampsia | 2 (6) | 2 (6) | 1.0 (0.1–6.7) | 1.00** |

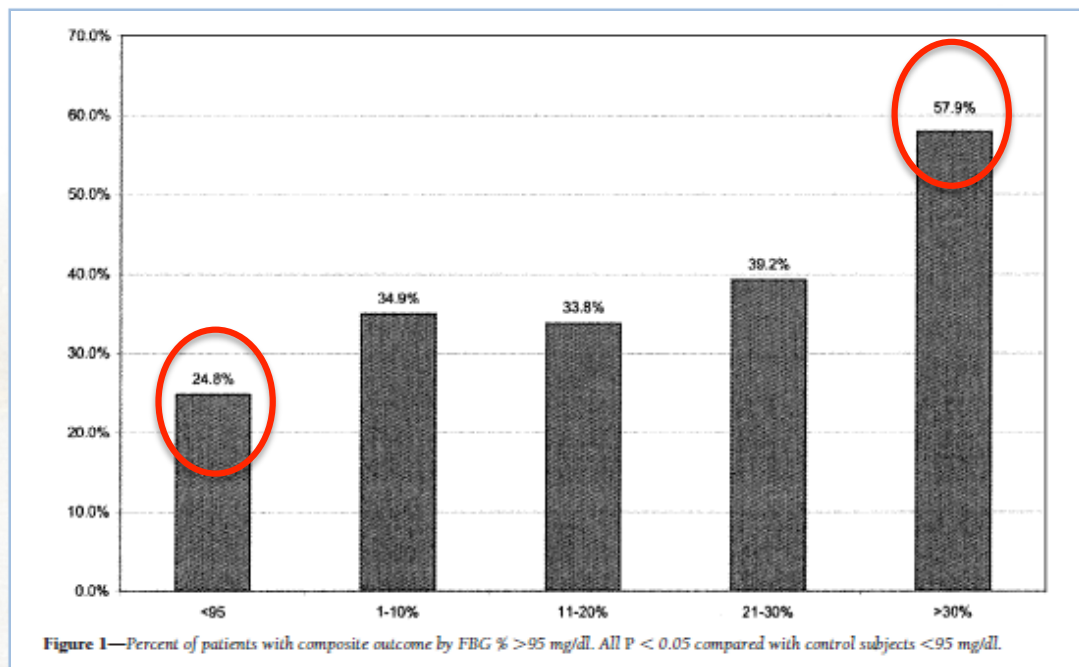
*CI denotes confidence interval, and CPD cephalopelvic disproportion.
 †By Student's t-test.



The impact of Glycemic control on neonatal outcome in singleton pregnancies complicated by Gestational Diabetes

2030 GDM – buon compenso (ACOG)
vs 1188 GDM – non buon compenso

Glicemia a digiuno



Outcome composito
Prevalenza outcome avverso:
24,8% in FPG < 95mg/dl
57,9% in FPG 123,5 mg/dl



Using Meal-Based Self Monitoring of Blood Glucose as a tool to improve outcomes in pregnancy complicated by diabetes . Review

- L'autocontrollo glicemico è uno strumento importante per migliorare l'outcome nella gravidanza complicata dal diabete**
- le modalità del controllo devono essere in grado di cogliere le fluttuazioni giornaliere della glicemia e le variazioni dell'andamento glicemico da un giorno all'altro**
- è importante conoscere il livello glicemico a digiuno e post prandiale per poter orientare la terapia, sia essa nutrizionale che insulinica**



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One or Two hours post-prandial glucose measurements : Are they the same?

OBJECTIVE: This study was undertaken to compare the rate of abnormal glucose levels measured after 1 hour (>140 mg%) with those measured after 2 hours (>120 mg%) postprandially in women with gestational diabetes mellitus (GDM).

CONCLUSION: The rate of abnormal values was 2.5-fold greater 1 hour postbreakfast than 2 hours postbreakfast, in contrast to an opposite ratio of a 2-fold increase in the rate of abnormal values 2 hours postdinner versus 1 hour postdinner. Therefore, differential measurement (1 hour after breakfast and 2 hours after dinner) might impose stricter criteria for controlling blood glucose levels. Further clinical research should explore whether differential measurements might reduce the rate of diabetes-associated complications.

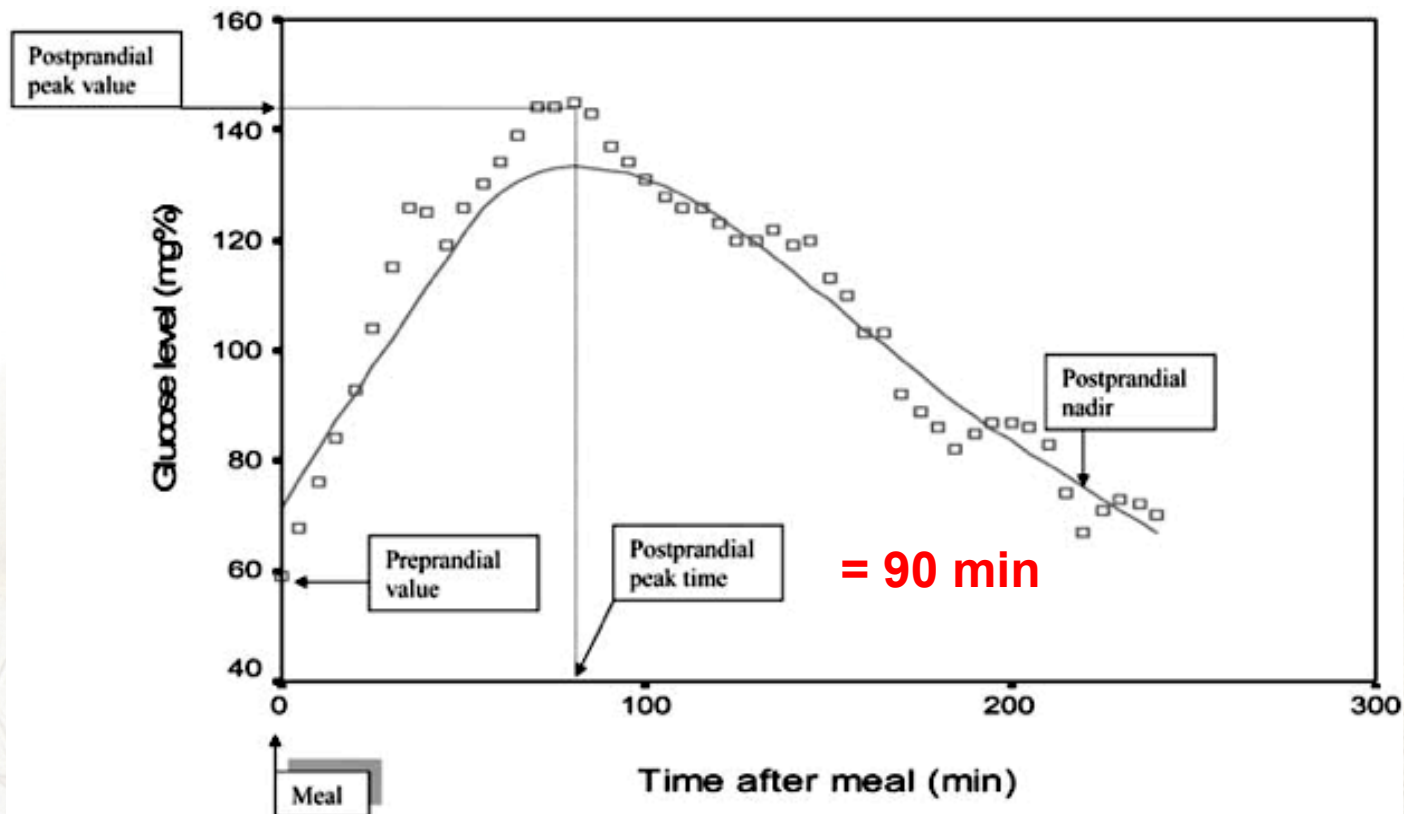
Sivan J Am J Obstet Gynecol 185:604, 2001

I protocolli per il “timing ” del SMBG dovrebbero essere impostati in modo da intercettare il picco e il nadir della glicemia materna.

Numerosi studi, effettuati sia con SMBG, sia con CGM, concordano sul fatto che nelle gravidanze diabetiche il picco post-prandiale si verifica dopo circa 90 min, indipendentemente dal tipo di diabete e dal grado di controllo glicemico.



The post-prandial glucose profile in the diabetic pregnancy



Continuous Glucose Monitoring versus Self-monitoring of blood glucose in the treatment of Gestational Diabetes Mellitus

Birth weight, macrosomia (≥ 2 S.D. of mean birth weight) and Apgar score at 5 min, neonate adverse events and mode of delivery

| | CGMS [®] | Self-monitoring group | p-Value |
|---|-------------------|-----------------------|---------|
| Birth weight (g) | 3658 \pm 496 | 3664 \pm 588 | 1.0 |
| Macrosomia, n (%) | 4 (11.1) | 3 (8.1) | 0.33 |
| Apgar 5 min | 9.0 \pm 0.6 | 9.1 \pm 1 | 0.1 |
| Umbilical artery pH ^a | 7.24 \pm 0.07 | 7.25 \pm 0.07 | 0.7 |
| Umbilical artery pH < 7.05 (n) | 0 | 1 | 0.16 |
| Neonates transferred to NICU ^b (%) | 19.4 | 30.8 | 0.11 |
| Days/treated neonate at NICU | 3 \pm 1.3 | 3.83 \pm 2.0 | |
| Hyperbilirubinemia (UV-treatment) (%) | 11.1 | 10.8 | 0.7 |
| Hypoglycaemia (%) | 13.9 | 13.8 | 0.5 |
| Hypoglycaemia days/treated neonate | 1 \pm 0 | 2.4 \pm 1.0 | |
| Spontaneous delivery (%) | 69.4 | 70.3 | 0.47 |
| Assisted delivery (%) | 8.3 | 8.1 | 0.49 |
| Caesarean section (%) | 22.2 | 21.6 | 0.47 |

Data are mean \pm S.D. or %.

^a Not obtained in four mothers in the CGMS[®] group and seven mothers in the self-monitoring group.

^b Newborn intensive care unit.

Identificazione con CGM di un maggior numero di pazienti che necessitavano di trattamento insulinico

Kestila KK Diab Res Clin Pract 77:174,2007



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CENTRO STUDI E RICERCHE - FONDAZIONE AMD

NAPOLI, 18-20 OTTOBRE 2012



CENTRO CONGRESSI
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Quanti controlli?





Gli Studi

| | N° Controlli /die | Timing |
|---|--|--|
| Langer O Am J Obst Gynecol,1994 | 4 controlli (solo striscie) + 1controllo preP e postP in laboratorio /sett. vs 7 controlli | a digiuno e 2h PostP vs PreP , 2h PostP+ bed- time |
| de Veciana M NEJM, 1995 | 4 controlli | preP , bed-time vs digiuno , 1h PostP |
| Langer O Am J Obst Gynecol, 2005 | 7 controlli | PreP , 2h PostP + Bed- time |
| Crowther CA NEJM,2005 | 4 controlli fino a target | PreP, 2 h PostP |
| Landon MB NEJM, 2009 | 4 controlli | digiuno, 2h PostP |



Le Linee Guida

| | Condizione | Frequenza SMBG |
|---|---|--|
| NICE -2009 Guideline on SMBG | Prepregnancy Pregnancy in type1 and type2 Gestational diabetes | All should SMBG at least 4 times a day |
| IDF-2009 Diabetes and pregnancy Guidelines | Gestational Diabetes | Four times a day, fasting and 1 hour after meal |
| Canadian Diabetes Association,2011 | Pregnant(or planning pregnancy) whether using insulin or not | SMBG individualized and may involves SMBG >4 times per day |



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Gli Standard Italiani



Le donne con diabete gestazionale devono essere sottoposte a un trattamento efficace allo scopo di evitare effetti negativi sul feto. **(Livello della prova II, Forza della raccomandazione B)**

L'autocontrollo glicemico deve essere iniziato immediatamente dopo la diagnosi di diabete gestazionale. Nelle forme trattate con sola dieta possono essere utilizzati schemi semplificati a "scacchiera", mentre protocolli intensificati, del tutto analoghi a quelli indicati per il diabete pre-gestazionale, devono essere applicati in tutte le forme di diabete insulino-trattato. **(Livello della prova V, Forza della raccomandazione B)**

Consensus autocontrollo

RACCOMANDAZIONI PER L'AUTOCONTROLLO DELLA GLICEMIA NEL PAZIENTE DIABETICO

Classe 5. Paziente con Diabete gestazionale.

In questa classe di pazienti al fine di ridurre le complicanze materne e fetali legate all'iperglicemia (78) è indicato l'autocontrollo domiciliare della glicemia per valutare il trend glicemico e decidere se e quando iniziare la terapia insulinica. La frequenza dei controlli suggerita per le donne con diabete gestazionale in trattamento dietetico è di 2 controlli/die (schemi semplificati a scacchiera) (suggerite/raccomandate 75 strisce/mese). Il diabetologo deciderà una intensificazione del monitoraggio in relazione alle singole situazioni cliniche, fino allo schema a 7/8 punti/die per le pazienti in trattamento insulinico intensivo (1,2) (suggerite/raccomandate 100-250 strisce/mese).



Schemi di monitoraggio per paziente con GDM in trattamento dietetico

| | Digiuno | Dopo colazione | Prima di pranzo | Dopo pranzo | Prima di cena | Dopo cena | Prima di coricarsi | Notte |
|-----------|---------|----------------|-----------------|-------------|---------------|-----------|--------------------|-------|
| Lunedì | X | X | | | | | | |
| Martedì | | | | X | | X | | |
| Mercoledì | X | X | | | | | | |
| Giovedì | | | | X | | X | | |
| Venerdì | X | X | | | | | | |
| Sabato | | | | X | | X | | |
| Domenica | X | X | | | | | | |

14 controlli /sett

| | Digiuno | Dopo colazione | Prima di pranzo | Dopo pranzo | Prima di cena | Dopo cena | Prima di coricarsi | Notte |
|-----------|---------|----------------|-----------------|-------------|---------------|-----------|--------------------|-------|
| Lunedì | X | X | | | | | | |
| Martedì | X | | | X | | | | |
| Mercoledì | X | | | | | X | | |
| Giovedì | X | X | | X | | X | | |
| Venerdì | X | X | | | | | | |
| Sabato | X | | | X | | | | |
| Domenica | X | | | | | X | | |
| Lunedì | X | X | | X | | X | | |

20 controlli /sett



Schemi di monitoraggio per paziente con GDM in trattamento insulinico

Esempio: paziente con Diabete gestazionale in trattamento insulinico (da modulare sulla base dello schema terapeutico)

| | Digiuno | Dopo colazione | Prima di pranzo | Dopo pranzo | Prima di cena | Dopo cena | Prima di coricarsi | Notte |
|-----------|---------|----------------|-----------------|-------------|---------------|-----------|--------------------|-------|
| Lunedì | X | X | | X | | X | | |
| Martedì | X | X | | X | | X | | |
| Mercoledì | X | X | | X | | X | | |
| Giovedì | X | X | | X | | X | | |
| Venerdì | X | X | | X | | X | | |
| Sabato | X | X | X | X | X | X | | X |
| Domenica | X | X | | X | | X | | |

ATTENDIBILITA' DEL DATO

Criticità:

- **Accuratezza analitica dei glucometri**
- **Fattori legati al paziente:**
 - **Variazioni ematocrito**
 - **Uso del glucometro/striscie**
 - **Tecnica inappropriata**
 -



The impact of Self-Monitoring of Blood Glucose on Self Efficacy and Pregnancy Outcomes in women with Diet -controlled Gestational Diabetes.

The greatest utility of SMBG may be as a teaching tool to validate the importance of exercise and diet

The findings suggest that ongoing support and education may be important determinants of compliance with self -care regimen, and, ultimately pregnancy outcomes

One important aspect of health care for people with diabetes is the quality of interaction with their health care providers and the health care team

II TEAM DIABETOLOGICO



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*Grazie
per l'attenzione*