

CONGRESSO NAZIONALE AGEO
LA GINECOLOGIA DEL TERRITORIO. PERCORSI
CLINICI ED ORGANIZZATIVI

Firenze 11-13 aprile 2013

Gestione della Gravidanza Multipla

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Università degli Studi di Firenze
AOUCareggi Firenze



M Di Tommaso

Le Cure Prenatali

Ambulatorio dedicato

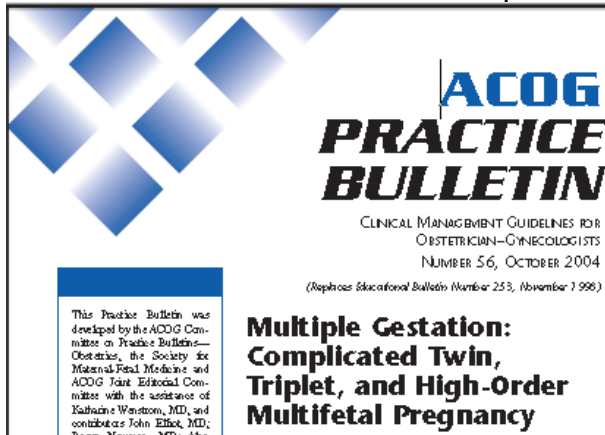
Percorso ecografico dedicato

Corso preparazione al parto

.....e quelle Post Natali....

L'allattamento (come?)

Le Fonti



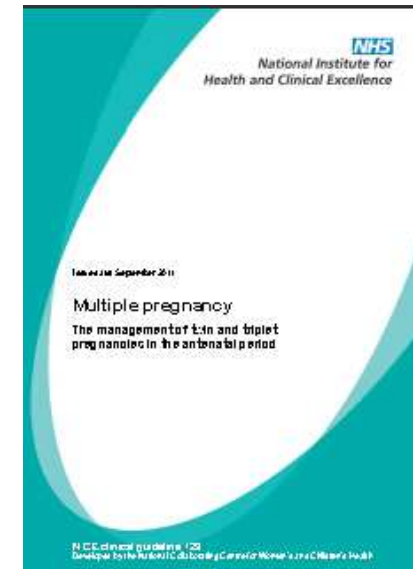
Reaffirmed 2010



Green-top Guideline
No. 51
December 2008

MANAGEMENT OF MONOCHORIONIC TWIN PREGNANCY

December 2008



September 2011

Eur J Obstet Gynecol Reprod Biol. 2011 Jan 28. [Epub ahead of print]

Twin pregnancies: guidelines for clinical practice from the French College of Gynaecologists and Obstetricians (CNGOF).

Vayssière C, Benoist G, Blondel B, Deruelle P, Favre R, Gallot D, Jabert P, Lemery D, Picone O, Pons JC, Puech F, Quarello E, Salomon L, Schmitz T, Senat MV, Sentilhes L, Simon A, Stirneman J, Vendittelli F, Winer N, Villes Y.

January 2011

M Di Tommaso

Ambulatorio dedicato: perchè



- Identificazione precoce rischio materno e fetali
- Identificazione precoce corionicità
- Informazioni adeguate su diagnosi prenatale
- Personalizzazione dell'antenatal care
- Informazione su rischi generici e specifici
- Supporto

Di Tommaso

D. Corionicità & D. Prenatale

Percorso ecografico

Complicanze generiche

Complicanze specifiche

Timing / Modalità del parto

Specificità post parto



Diagnostica di corionicità ecografia a 11-13w

- Tipo di placentazione
- Numero di strati
- Sesso

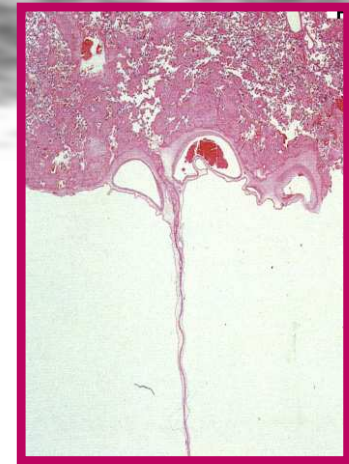
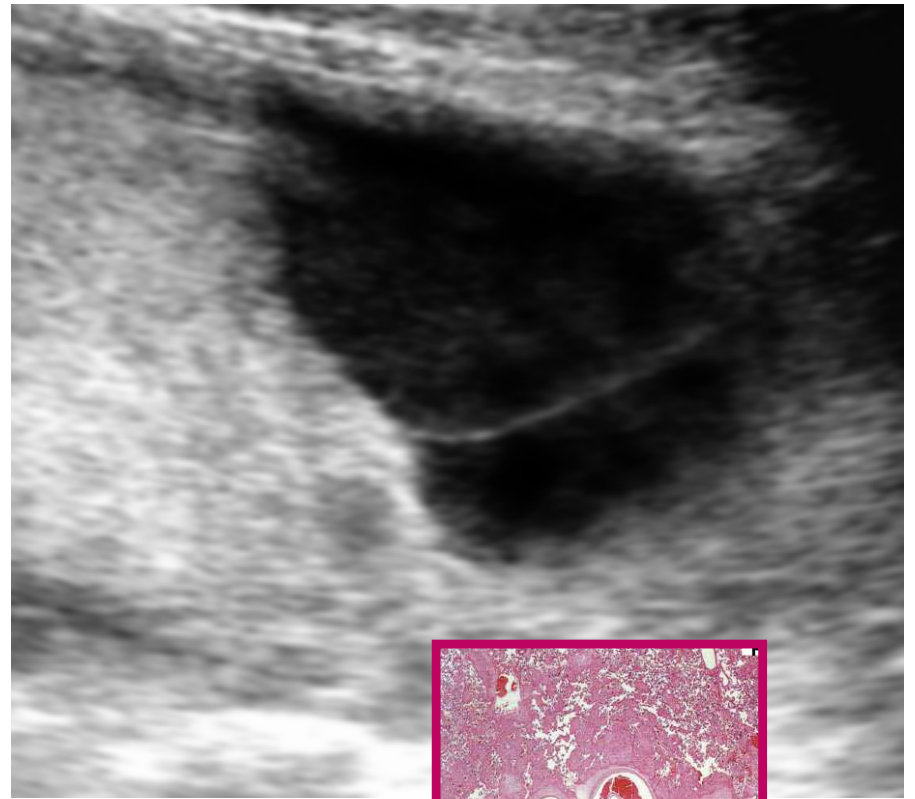
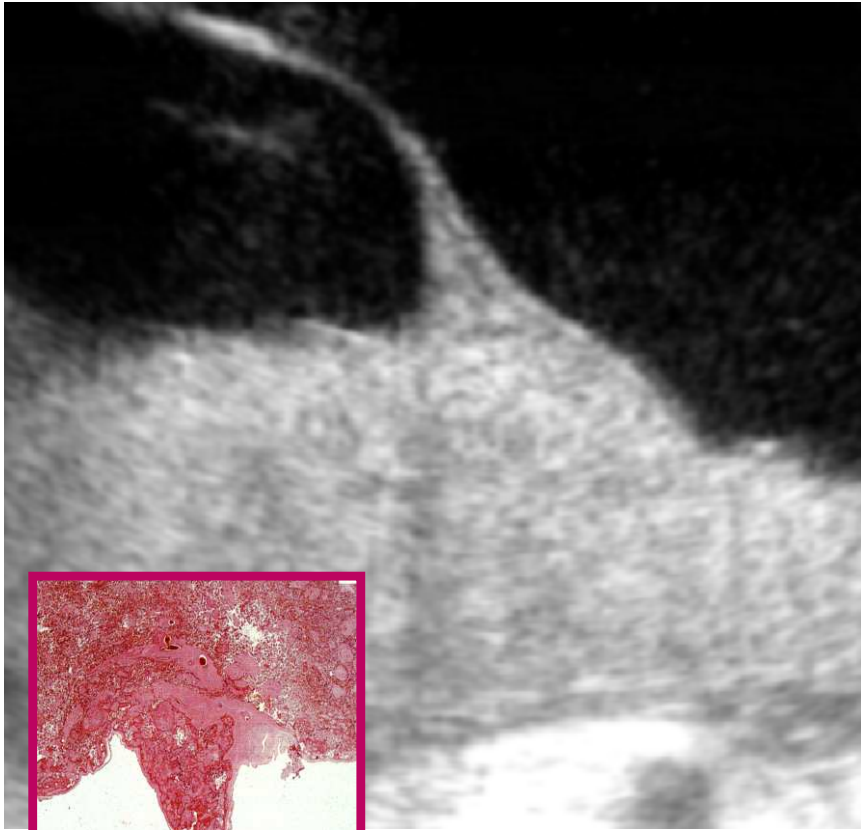
BICORIALE

- Segno Lambda
- Membrana spessa ($>1,5-2\text{mm}$)
- Genitali discordanti
- > 1 placenta

MONOCORIALE

- Segno "T sign"
- Membrana divisoria sottile ($\leq 1,5-2\text{mm}$)
- Genitali concordanti
- Artery to artery anastomosis (AAA)

Lambda sign



T sign

Diagnosi Prenatale

NT: miglior parametro per valutazione rischio di aneuploidia

I markers serici nel I e II trimestre non sono raccomandati

In caso di diagnosi invasiva amniocentesi è da preferire a CVS

Mappa posizione fetale

Personale Esperto

D. Corionicità & D. Prenatale

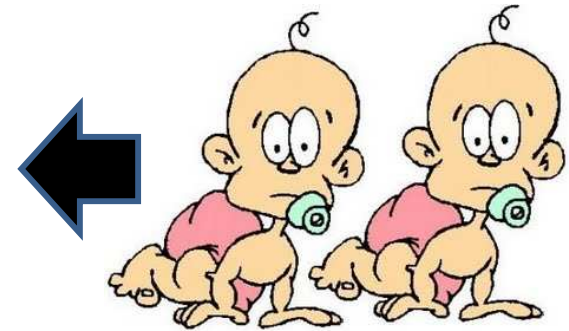
Percorso ecografico

Complicanze generiche

Complicanze specifiche

Timing / Modalità del parto

Specificità post parto



PERCORSO ECOGRAFICO

MONOCORIALI

16-36 w
Ogni 2 sett

- Valutazione biometrica
- AFI, riempimento vesciche
- Doppler arterioso/venoso
- Ricerca anastomosi AA
- Cervicometria
- Se TTTS valutazione settimanale

20-22w

- Ecocardio fetale

36w

- Controllo presentazioni
- AFI
- Doppler distretto arterioso/venoso
- Timing e modalità del parto

BICORIALI

11-13w

- Corionicità
- NT
- Counseling DP invasiva

19-21w

- Valutazione morfologica e biometrica
- Doppler art. e ven.
- 16-24w Doppler A.UTERINE - CL

21-32w
Ogni 4 sett

- Valutazione accrescimento
- Doppler arterioso e venoso

32-38w
Ogni 2 sett

- Valutazione accrescimento
- Doppler arterioso e venoso
- Timing e modalità del parto

Di Tommaso



Centro di
Medicina Fetale
AOU-Careggi

D. Corionicità & D. Prenatale

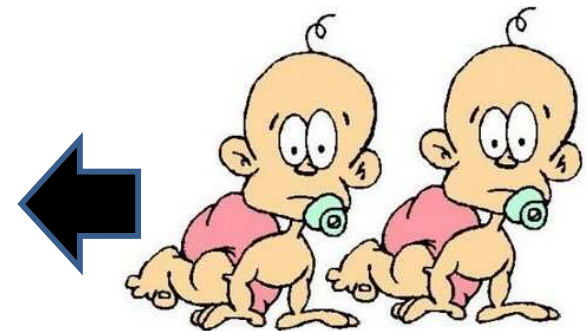
Percorso ecografico

Complicanze generiche

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Specificità post parto



Complicanze generiche

Parto pretermine

Anemia- HEELP-Diabete- Colestasi

Difetti di crescita

Perdita di un feto

Parto Pretermine

Am J Obstet Gynecol. 2010 Jun 22. [Epub ahead of print]

Transvaginal sonographic cervical length for the prediction of spontaneous preterm birth in twin pregnancies: a systematic review and metaanalysis.

Conde-Agudelo A, Romero R, Hassan SS, Yeo L.

CL a 20-24 wks: buon valore predittivo di PPT a 28 wks nelle asintomatiche ($CL \leq 25$)

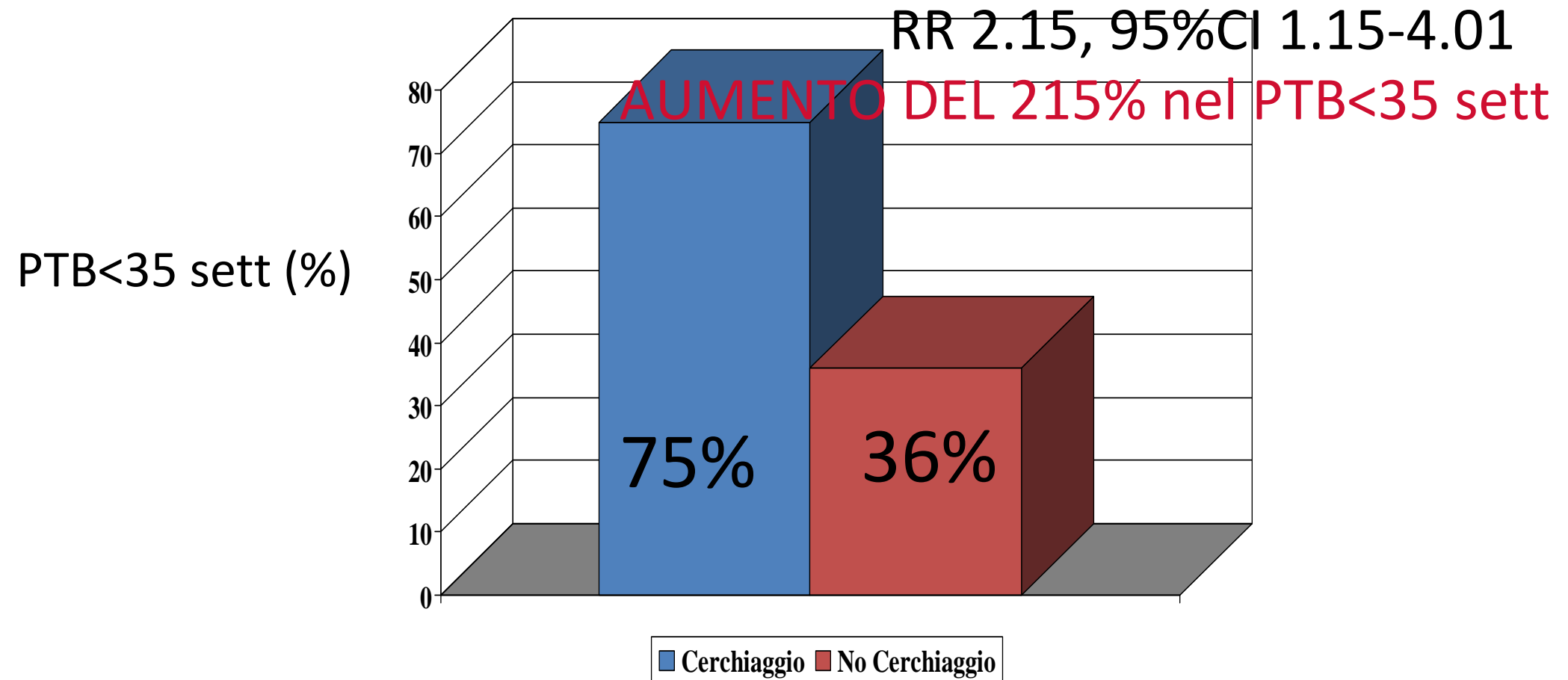
No cerchiaggio

Steroidi*

No Progesterone

No Cerchiaggio

CL < 25mm (n=49)



Parto pretermine: terapia

No Benefici

Bed Rest



MAI Beta Mimetici

Tocolitici Profilattici

Stile di vita e Supplementazioni

Anemia- HELLP- Diabete

Ferro & Ac. folico

Nutritional supplements and diet and lifestyle advice

- Give the same advice about diet, lifestyle and nutritional supplements as in routine antenatal care⁷.
- Be aware of the higher incidence of anaemia in women with twin and triplet pregnancies. Perform a full blood count at 20–24 weeks to identify a need for early supplementation with iron or folic acid, and repeat at 28 weeks as in routine antenatal care⁸.
- ▶ Women with high-order multiple gestations should be queried about nausea, epigastric pain, and other unusual third-trimester symptoms because they are at increased risk to develop HELLP syndrome, in many cases before symptoms of preeclampsia have appeared
- ▶ The higher incidence of gestational diabetes and hypertension in high-order multiple gestations warrants screening and monitoring for these complications.

HELLP- Preclampsia

Diabete

Ipertensione

Hypertension

Also see the NICE guideline on hypertension in pregnancy (www.nice.org.uk/CG107).

- Measure blood pressure and test urine for proteinuria at each appointment, as in routine antenatal care⁹.
- Advise women to take 75 mg of aspirin¹⁰ daily from 12 weeks until the birth of the babies if they have one or more of the following risk factors for hypertension:
 - first pregnancy
 - age 40 years or older
 - pregnancy interval of more than 10 years
 - BMI of 35 kg/m² or more at first visit
 - family history of pre-eclampsia.

?

Difetti di crescita

Intrauterine growth restriction

- Estimate fetal weight discordance using two or more biometric parameters at each scan from 20 weeks. Do not scan more than 28 days apart. Consider a $\geq 25\%$ difference in size as clinically important and refer woman to a tertiary level fetal medicine centre.
- Do not use:
 - abdominal palpation or symphysis–fundal height measurements to predict intrauterine growth restriction
 - umbilical artery Doppler ultrasound to monitor for intrauterine growth restriction or birthweight differences.

nelle Monocoriali: dd con TTS



MANAGEMENT OF MONOCHORIONIC TWIN PREGNANCY

7. What is (are) the optimal treatment(s) of TTTS and their outcomes?

Twin–twin transfusion syndrome should be managed in conjunction with regional fetal medicine centres with recourse to specialist expertise.



Severe twin–twin transfusion syndrome presenting before 26 weeks of gestation should be treated by laser ablation rather than by amnioreduction or septostomy.



5.2 Is fetal echocardiography useful in monochorionic twin pregnancy?

All monochorionic twins should have a detailed ultrasound scan which includes extended views of the fetal heart.



A fetal echocardiographic assessment should be considered in the assessment of severe TTTS.



D. Corionicità & D. Prenatale

Percorso ecografico

Complicanze generiche

Complicanze specifiche

Timing / Modalità del parto

Specificità post parto



Perdita di un feto

Monocoriali

9. What are the consequences for the surviving twin after fetal death of the co-twin in a monochorionic pregnancy and what is optimal clinical management?

After the single fetal death in a monochorionic pregnancy, the risk to the surviving twin of death or neurological abnormality is of the order of 12% and 18%, respectively. Clinicians should be aware that the risks are much higher than in dichorionic pregnancies and that management of such pregnancies is complex.

B

It should be recognised that the risks of fetal death and disability in childhood are not restricted to monochorionic pregnancies with a prior diagnosis of twin-to-twin transfusion syndrome.



Single fetal death in a monochorionic pregnancy should be referred and assessed in a regional fetal medicine centre.

B

Perdita di un feto

Reviews

Co-Twin Prognosis After Single Fetal Death

A Systematic Review and Meta-Analysis

Sarah C. Hillman, MRCOG, Rachel K. Morris, MRCOG, Mark D. Kilby, FRCOG

CONCLUSION: Monochorionic twins are at significantly increased odds of co-twin demise and neurodevelopmental morbidity after single fetal death.

(Obstet Gynecol 2011;118:928–40)

RM encefalo su gemello superstite
Prolungare fino a 34 sett

TTS

TRAP

Twin Reversed Arterial Perfusion

TOPS

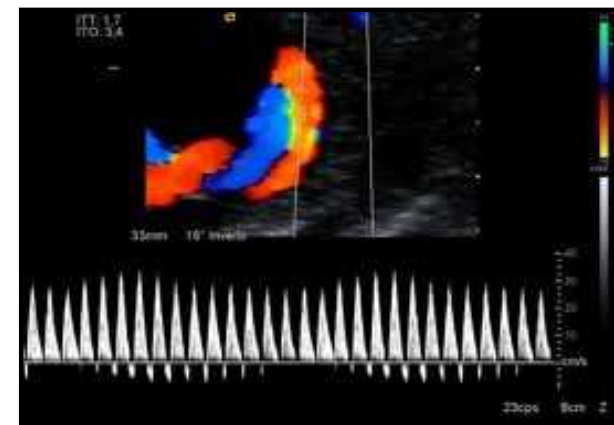
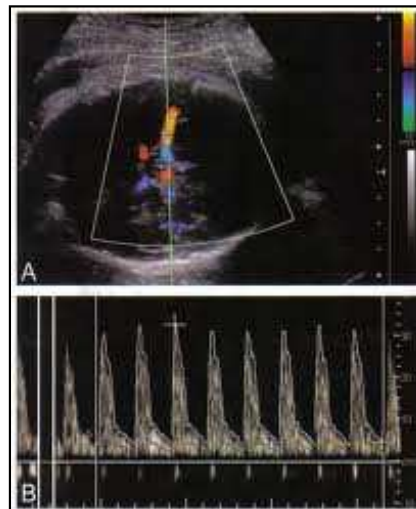
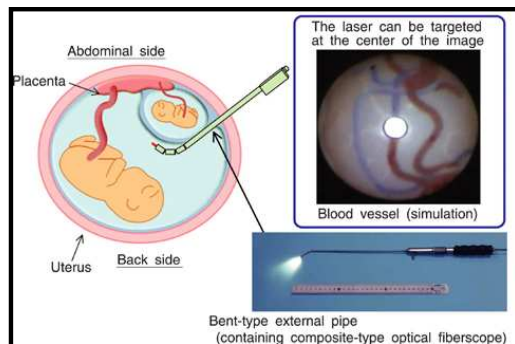
TAPS

Doppler MCA

Incidenza 3/100.000

1feto donatore ed 1
feto acardico

Laser



TTS

Table 1 The Quintero classification system ²³	
Stage	Classification
I	There is a discrepancy in amniotic fluid volume with oligohydramnios of a maximum vertical pocket (MVP) ≤ 2 cm in one sac and polyhydramnios in other sac (MVP ≥ 8 cm). The bladder of the donor twin is visible and Doppler studies are normal
II	The bladder of the donor twin is not visible (during length of examination, usually around 1 hour) but Doppler studies are not critically abnormal
III	Doppler studies are critically abnormal in either twin and are characterised as abnormal or reversed end-diastolic velocities in the umbilical artery, reverse flow in the Ductus venosus or pulsatile umbilical venous flow
IV	Ascites, pericardial or pleural effusion, scalp oedema or overt hydrops present
V	One or both babies are dead

D. Corionicità & D. Prenatale

Percorso ecografico

Complicanze generiche

Complicanze specifiche

Timing / Modalità del parto

Specificità post parto



Timing parto

➔ Quanto dura?

*se non ci sono
complicanze:*

BCBA: 38 sett.

MCBA: 36/37 sett.

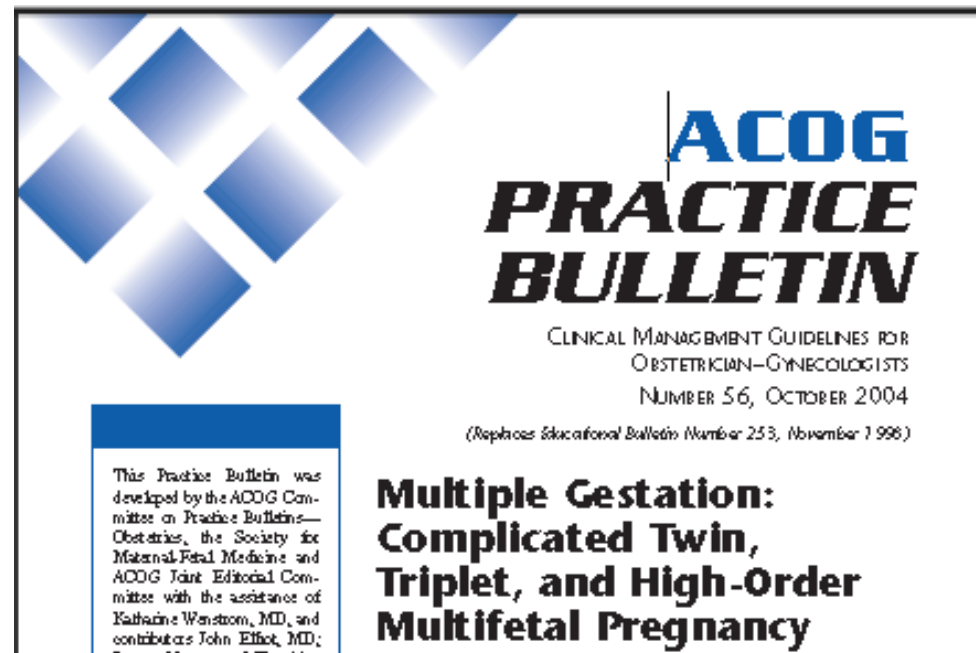
MCMA: 32 sett.

BCBA e MCBA con MIF
1 feto: 34 sett.

TRGEMINA: 34 sett.



Modalità



Reaffirmed 2009

► *Are there special considerations for route of delivery for multiple gestations?*

The route of delivery for twins should be determined by the position of the fetuses, the ease of fetal heart rate monitoring, and maternal and fetal status. Data are insufficient to determine the best route of delivery for high-

such pregnancies are delivered by cesarean delivery.

PRESENTAZIONE

Condizioni

Condizioni Fetali

FHR

Modalità & Timing



Royal College of
Obstetricians and
Gynaecologists

Setting standards to improve women's health

Green-top Guideline
No. 51
December 2008

MANAGEMENT OF MONOCHORIONIC TWIN PREGNANCY

MCMA

32 WKS

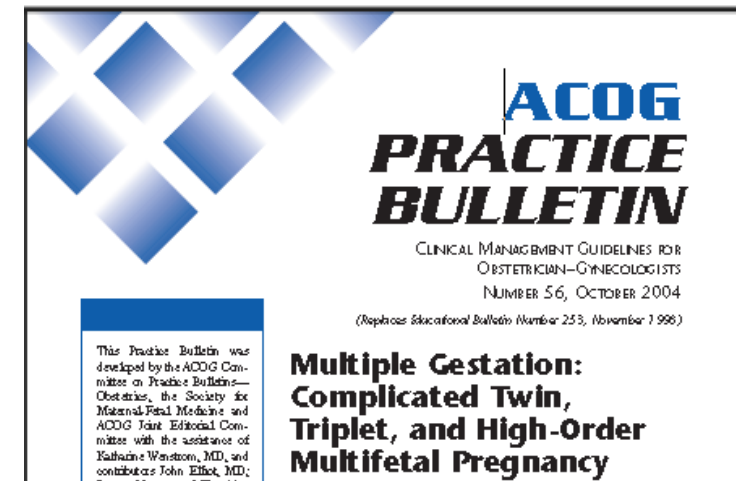
Taglio Cesareo

- Cord entanglement
- Prolasso funicolo
- Errore di clampaggio

Siddiqui F, McEwan A. 2007

Modalità

TRIGEMINE



Reaffirmed 2009

► *Are there special considerations for route of delivery for multiple gestations?*

The route of delivery for twins should be determined by the position of the fetuses, the ease of fetal heart rate monitoring, and maternal and fetal status. Data are insufficient to determine the best route of delivery for high-order multiple gestations. There are retrospective case series that validate vaginal delivery as a potential mode of delivery, especially for triplet gestations. However, most such pregnancies are delivered by cesarean delivery.

Modalità & Timing



Royal College of
Obstetricians and
Gynaecologists

Setting standards to improve women's health

Green-top Guideline
No. 51
December 2008

MCBA

MANAGEMENT OF MONOCHORIONIC TWIN PREGNANCY

8. What is the optimal timing and method of delivery for otherwise uncomplicated MC pregnancies (without fetal growth restriction and TTTS)?

It is appropriate to aim for vaginal birth of monochorionic twins unless there are accepted, specific clinical indications for caesarean section, such as twin one lying breech or previous caesarean section.



Delivery should be planned for 36–37 weeks of gestation, unless there is an indication to deliver earlier.



The management of multiple pregnancies in general is controversial, as are the timing of induction and the proposed mode of delivery. It has been stated in one review⁴⁴ that ‘many units deliver all monochorionic diamniotic twins by caesarean section because of the 10% risk of acute transfusion in labour’, although the evidence base for this is unclear. Given the recognised hazards of caesarean section to the mother, it seems inappropriate to recommend caesarean section routinely for all monochorionic twins without proof of benefit. Our search has found no such objective evidence.

This is not to imply that acute transfusion cannot occur during labour and it is one reason why continuous electronic surveillance during labour is desirable. Maternal views will also be important in reaching a conclusion about the best method of delivery.

AOUCareggi

BCBA

PS

- Vertice-vertice

TC

- 1° feto ≠ vertice

MCBA

PS

- Vertice-vertice
- A!A!A! TTTS acuta

TC

- 1° feto ≠ vertice

MCMA

TC

TRIGEMINE

TC

Quale tipo di parto

MonoCoriale Monoamniotica
Trigemina

**Taglio
Cesareo***

BiCoriale BiAmniotica
MonoCoriale Biamniotica

**Parto
Vaginale**
Se entrambi
CEFALICI**

*Rischio emorragia aumentato

** CTG tra la nascita del 1° e del 2°
Possibilità di TC sul 2° gemello se
cambia la presentazione
CTG patologico

Se P. vaginale...



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Bringing to life the best in women's health care

Multiple Pregnancy - study group statement

Consensus views arising from the 50th Study Group: Multiple
Pregnancy

2006

20. Vaginal delivery of twins should be performed in a setting with continuous intrapartum monitoring, immediate recourse to caesarean section, appropriate analgesia and an obstetrician experienced in twin delivery (Grade B).



**ACOG
PRACTICE
BULLETIN**

CLINICAL MANAGEMENT GUIDELINES FOR
OBSTETRICIAN-GYNAECOLOGISTS
NUMBER 49, DECEMBER 2003

(Replaces Technical Bulletin Number 21 & December 1990)



**Dystocia and
Augmentation of Labor**

- *Should women with twin gestations undergo augmentation of labor?*

Twin gestation is not a contraindication to augmentation of labor, but it does warrant special attention. In a retrospective report, 62 women with twin gestations were matched by

Se P. vaginale...

- valutazione PP e situazione feto all'inizio del travaglio (eco)
- accesso venoso e richieste sangue per ev. trasfusione
- analgesia
- ossitocina (durante il parto del I feto o tra I e II feto)
- CTG in continuo su entrambi i feto
- disponibilità di un ecografo in sala parto
- immediata disponibilità di s.o. e team per TC d'urgenza

Gemellarità: Controversie

- Epoche gestazionali precoci <28 sett
- Considerare allungamento intervallo di nascita

Zhang et al. 2004 (200 twin sets)

56% vs 24%

of the delayed (non delayed) second twins
survived to one year of age ($p < 0.001$).

Controversie

Da chiarire

- PP II feto non di vertice
- II feto di basso peso
- intervallo temporale fra I e II feto
- utilità di applicazione vacuum su II feto
- differenza di peso fra i 2 feti che rende sconsigliabile il parto vaginale



Anche noi
possiamo
nascere con
parto
naturale!

D. Corionicità & D. Prenatale

Percorso ecografico

Complicanze generiche

Complicanze specifiche

Timing / Modalità del parto

Specificità post parto



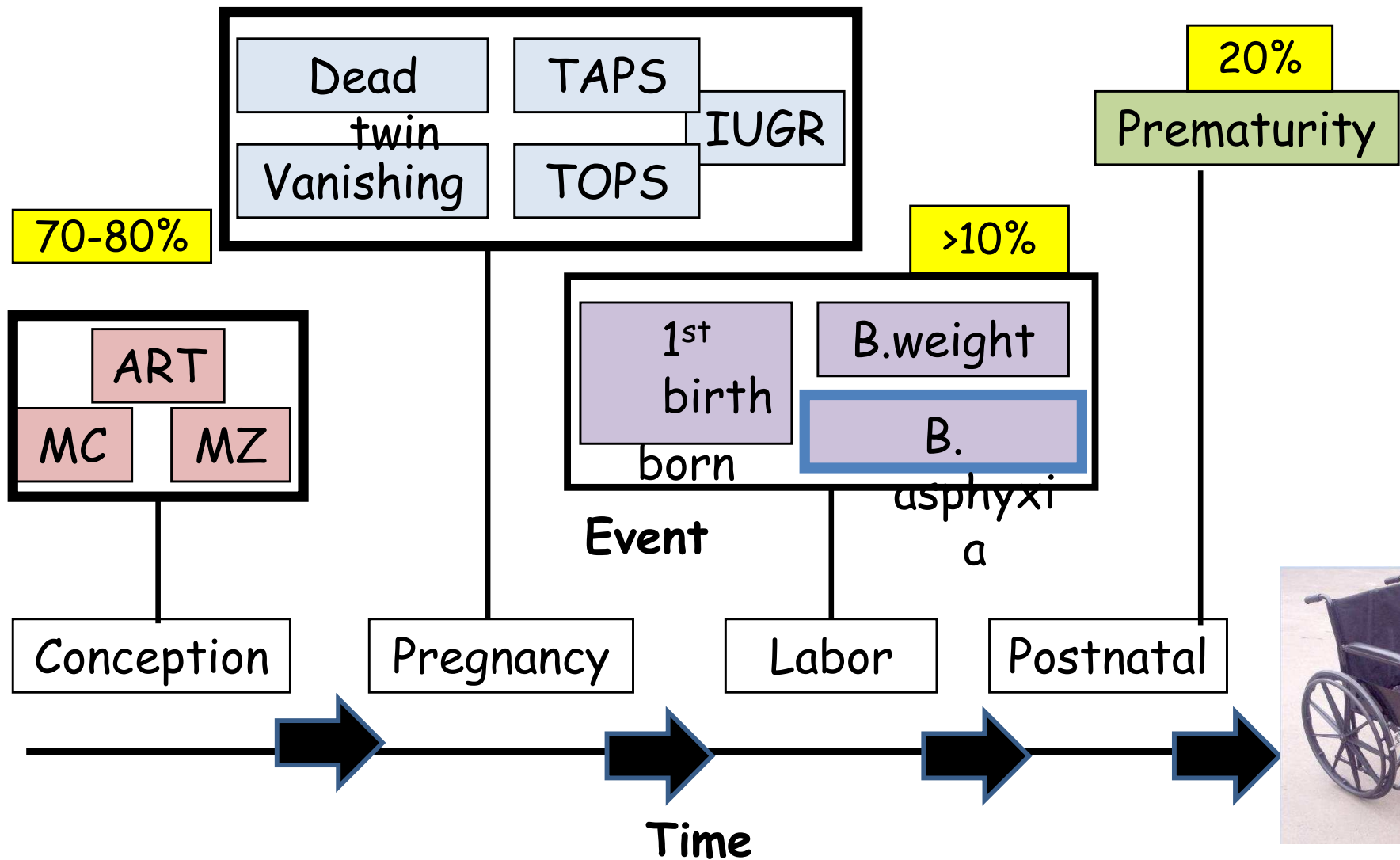
IL POST PARTUM

- Le emorragie e le endometriti post partum sono più frequenti nelle GG
- L'atonia uterina come causa più frequente di emorragia è dovuta a sovradistensione uterina e/o prolungata stimolazione con ossitocina
- Terapia:
 1. compressione uterina (con tecnica bimanuale)
 2. infusione di ossitocina + PGF 2 alfa i.m.
 3. accurata esplorazione vaginale, cervicale e cavità uterina
- Endometrite: terapia antibiotica a largo spettro

L'ALLATTAMENTO



Course of Origin



Cerebral Palsy

Grazie

Team ambulatorio

M. DI TOMMASO

FEDERICA PAPI

TIZIANA TOMAILO

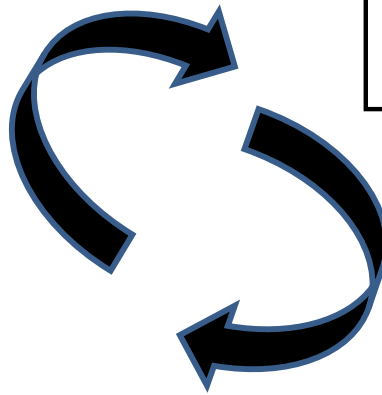
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Accademia dei Fisiocritici
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Università degli Studi di Siena

Giornata Internazionale di Medicina Materno-Fetale



Giornata Internazionale di Medicina Materno-Fetale

Siena 1 Luglio 2013

M. vascolari placentari
Test innovativi DP

P. pretermine
Taglio cesareo

www.partocritici.it

Anemia fetale
IUGR



**Vincenzo
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Washington, D.C., USA



Giancarlo Mari

University of Tennessee Health Science
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Memphis, TN, USA

Mortalità feto/neonatale & epoca gestazionale

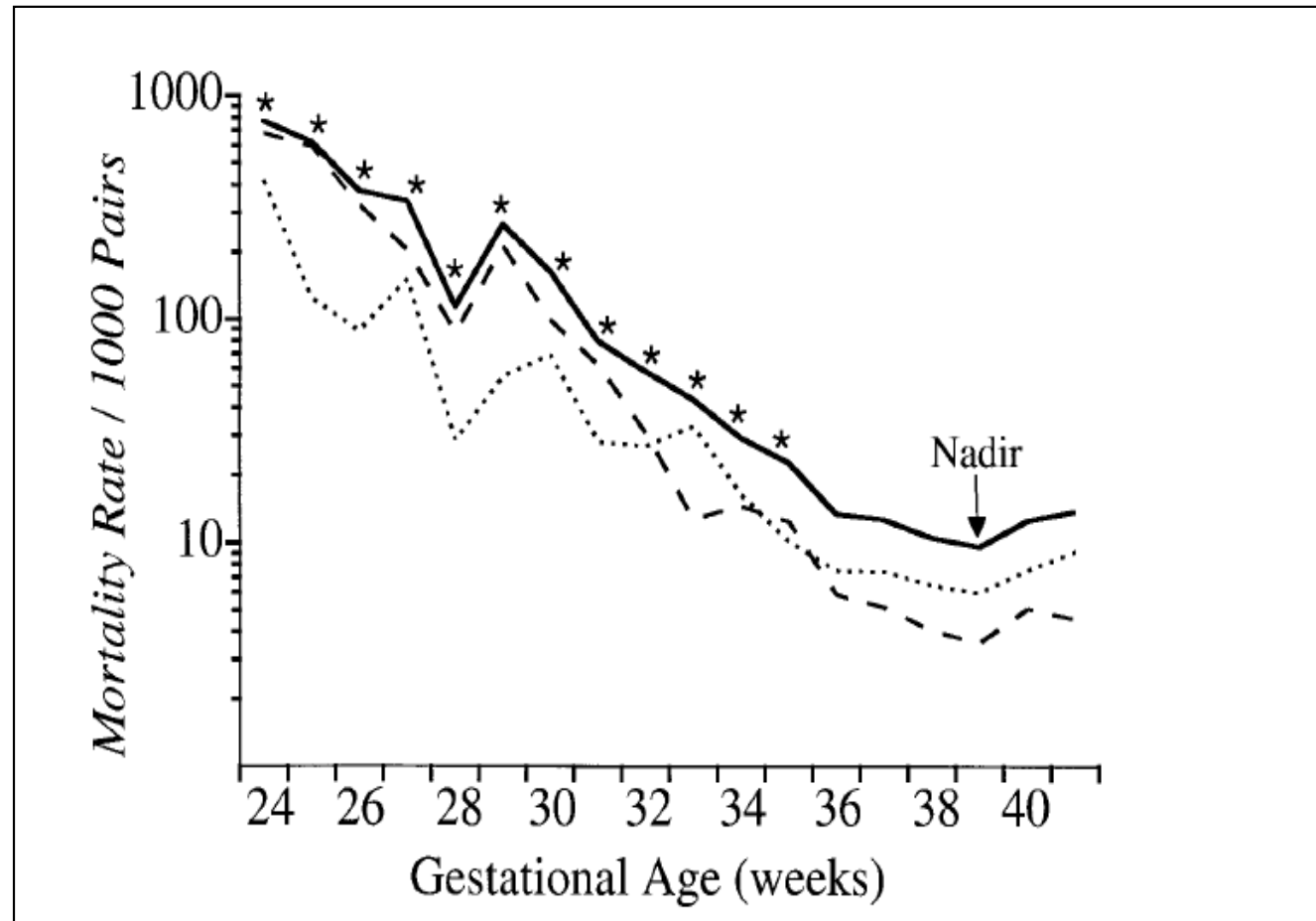


Fig 1. Perinatal death rate (n = 7903; solid line), pair fetal death rate (n = 7903; dotted line), and neonatal death rate (n = 7876; dashed line) according to gestational age at delivery. Asterisk, Week with perinatal mortality rate significantly different from *Nadir*.

Morbilità feto/neonatale & epoca gestazionale

RDS

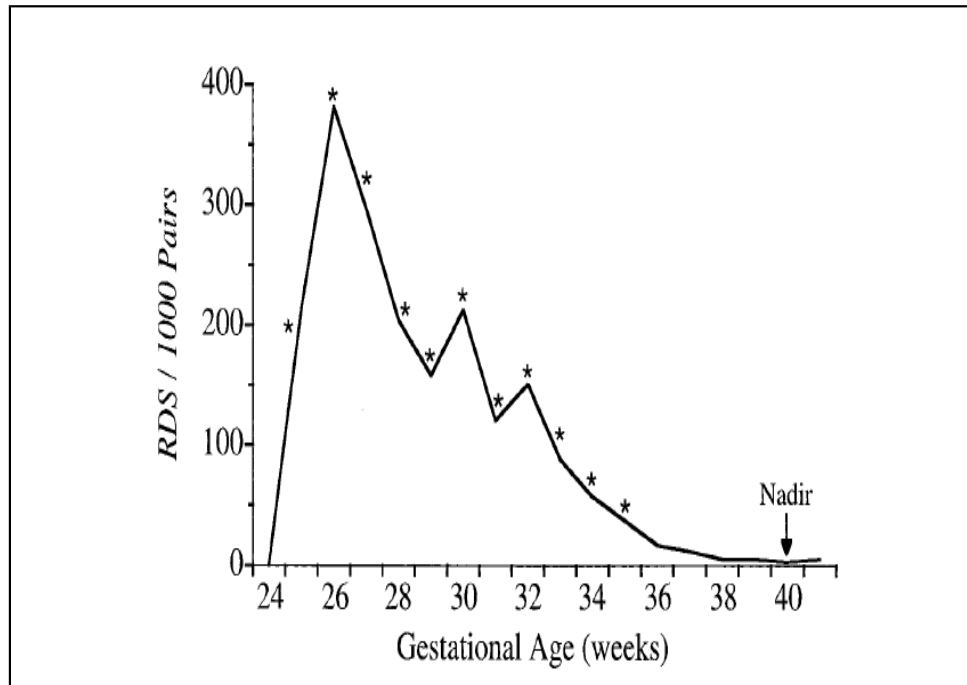


Fig 2. Pair RDS incidence according to gestational age at delivery among 6927 twin pairs in which both infants survived ≥ 28 days. *Asterisk*, Week with RDS rate significantly different from *Nadir*.

Giorni degenza

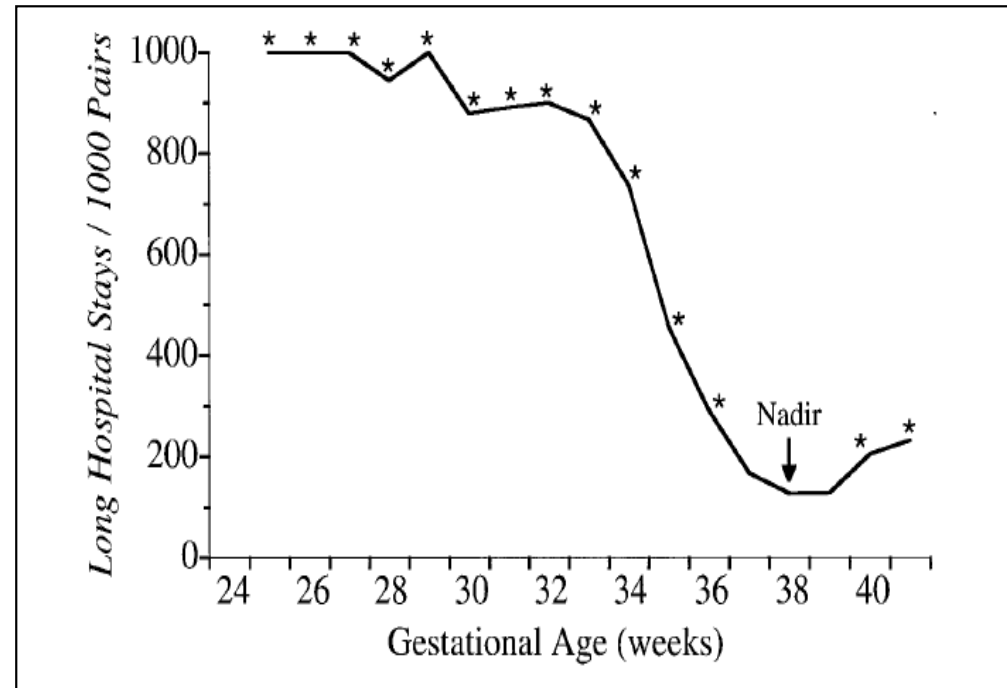


Fig 3. Pair rates of long (≥ 25 days) hospital stays according to gestational age at delivery among 3380 twin pairs with hospital data who were discharged home. *Asterisk*, Week with long hospital stay rate significantly different from *Nadir*.

Modalità & Timing



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Multiple Pregnancy - study group statement

Consensus views arising from the 50th Study Group: Multiple
Pregnancy 2006

BCBA

-
- Discussion of woman's/family needs relating to twins.
 - 34–36 weeks: discussion of mode of delivery and intrapartum care.
 - Elective delivery at 37–38 completed weeks.

Modalità del parto

BCBA

PS

- Vertice-vertice
- Vertice-non vertice?

TC

- 1° feto ≠ vertice

MCBA

Pareri discordanti in letteratura

PS

- Vertice-vertice
- A!A!A! TTTS acuta

TC

No evidenze sul
miglioramento outcome
2° gemello

MCMA

TC

- Cord entanglement
- Prolasso funicolo
- Errore di clampaggio

Modalità & Timing

MCBA

Multiple Pregnancy - study group statement

Consensus views arising from the 50th Study Group: Multiple Pregnancy



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21. In view of the increased risk of stillbirth in twin pregnancy, elective delivery is recommended between 37 and 38 weeks of gestation (Grade C).