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Centro de Referencia Perinatal Oriente

Facultad de Medicina, Universidad de Chile

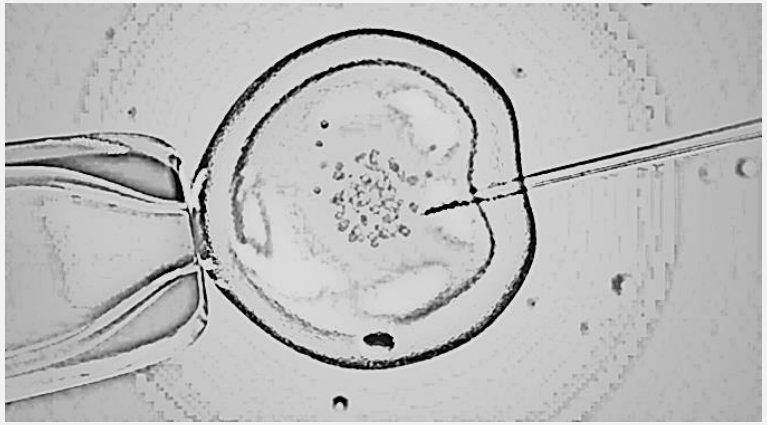
Seminario Nº 71
Embarazo Gemelar

Dr. Sebastián Martínez González, Dr. Daniel Martin, Dr. Juan Guillermo Rodriguez, Dra. Daniela Cisternas O.

10 de Mayo de 2021.-

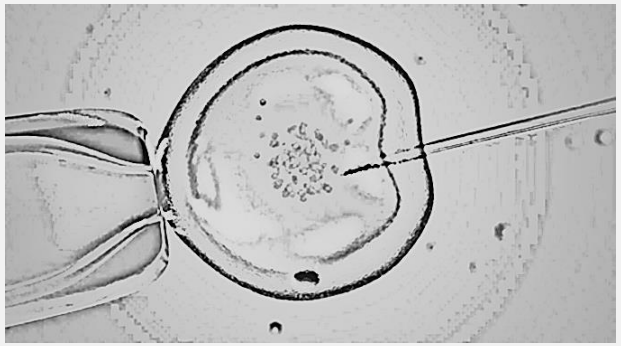
Introducción

- ~ 3% en EEUU[1].
- En aumento por técnicas de reproducción asistida[1-2].
- Incidencia varía según la cigocidad.
- En Chile ha aumentado su incidencia en los últimos 9 años en un 11%[2].
- Incremento en el riesgo de complicaciones maternas y fetales[1].

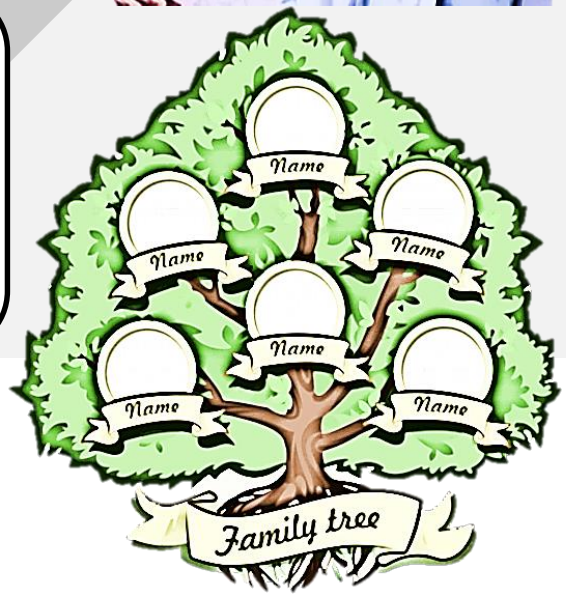


1. Kiekebusch G, Valdes E, Parra M. Serie guias clinicas: manejo del embarazo Gemelar. Rev Hosp Clin Univ Chile 2016; 27: 246 - 58
2. Fernández C, Poblete J. Prevención de Parto Prematuro en Gemelar: ¿Qué hay de nuevo?. Rev chil obstet ginecol 2017; 82(1): 70 - 76

Factores de riesgo



- Técnicas de fertilización asistida
- Edad Materna
- Raza
- Historia Familiar

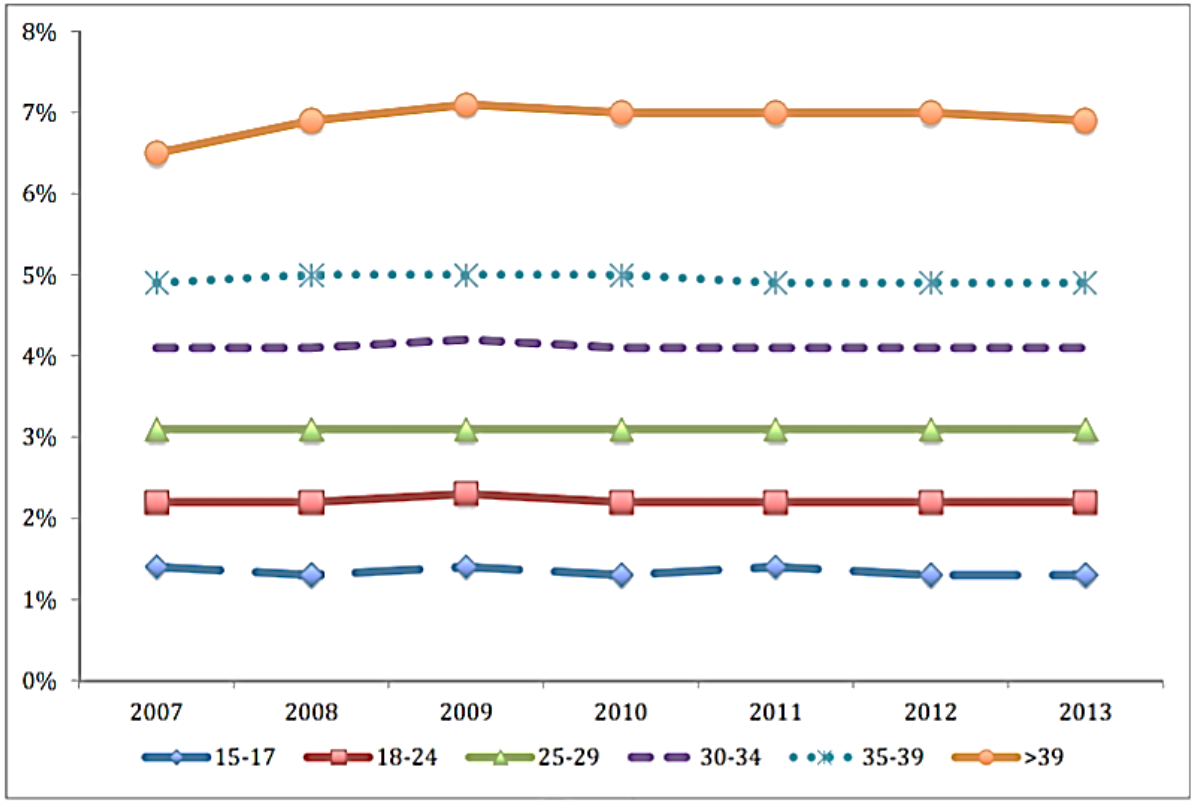


Nicolaides K. The 11-13 weeks scan. The Fetal Medicine Foundation.

Embarazo múltiple y edad materna

Si bien, la mayoría de los embarazos múltiples se concentran en pacientes entre 25 y 34 años, proporcionalmente el riesgo es mayor a medida que aumenta la edad materna.

Figure 1. Twins as proportion of all neonates by year of birth and maternal age category



Legend: The figure demonstrates the proportion of all live-born neonates for each maternal age category that are twins by year of birth.

McLennan AS, Gyamfi-Bannerman C, Ananth CV, et al. The role of maternal age in twin pregnancy outcomes. Am J Obstet Gynecol 2017;217:80.e1-8.

Clasificación

Embarazo Gemelar				
Dicigóticos (75%)	Monocigótico (25%)			
2 Esperimos + 2 óvulos	1 Espermio + 1 Óvulo			
Sexo igual o distinto	Mismo sexo			
Bicorial biamniótico	Bicorial Biamniótico (20-25%)	Monocorial Biamniótico (70-75%)	Monocorial monoamniótico (1-2%)	Gemelos Pagos (<1%)
Placentas separadas o fusionadas				

- Kiekebusch G, Valdes E, Parra M. Serie guias clinicas: manejo del embarazo Gemelar. Rev Hosp Clin Univ Chile 2016; 27: 246 - 58
- Cunningham F, Leveno KJ, Bloom SL, et al. Williams Obstetrics. 22th edition. International Edition, McGraw-Hall Companies Inc. Chapter 39. Multifetal Gestation.

Diagnóstico y Determinación de la corionicidad

Ecografía 11-14 semanas

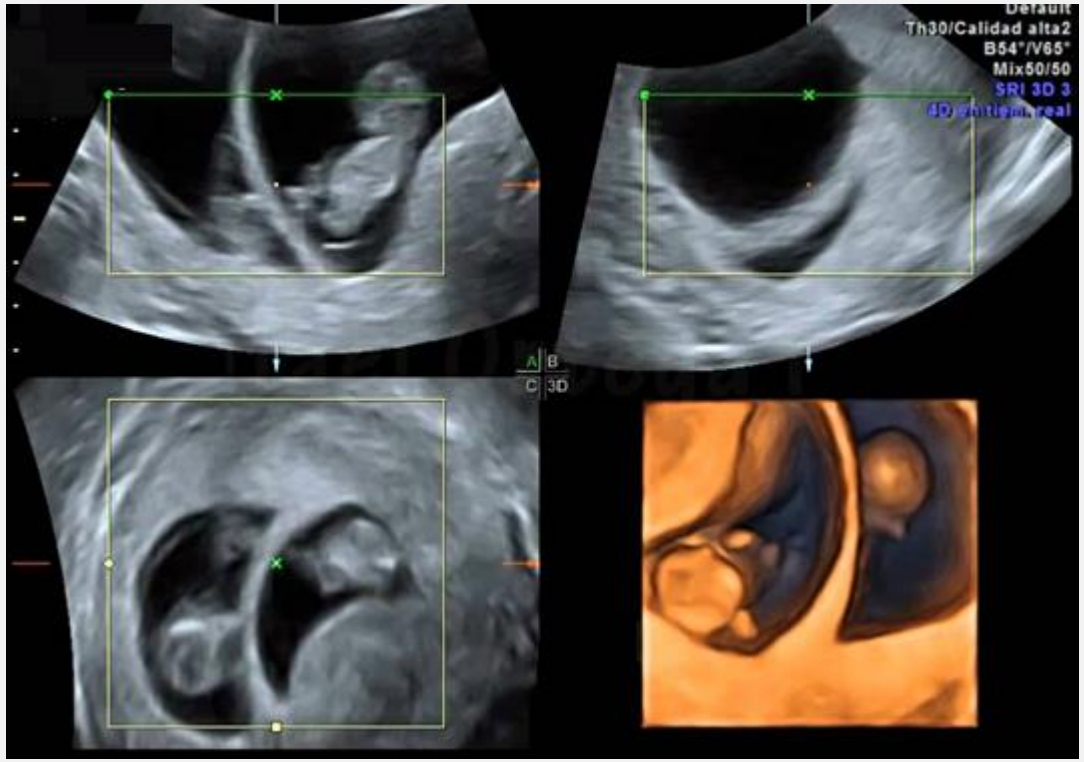
- Determinar edad gestacional (LCN gemelo más grande)
- Corionicidad
- Riesgo de aneuploidías
- Nomenclatura de gemelos

Eco tardía

- Circunferencia craneana gemelo más grande
- Corionicidad

- Kiekebusch G, Valdes E, Parra M. Serie guias clinicas: manejo del embarazo Gemelar. Rev Hosp Clin Univ Chile 2016; 27: 246 - 58
- ISUOG Practice Guidelines: role of ultrasound in twin pregnancy. Ultrasound Obstet Gynecol 2016; 47: 247–263.

Diagnóstico y Determinación de la corionicidad



Complicaciones maternas

Cambios Hemodinámicos	Sindrome hipertensivo del embaraazo •HTA gestacional •Preeclampsia •HELLP	Diabetes Gestacional
Hiperemesis gravídica	Edema Pulmonar	Anemia
	Infección Urinaria	

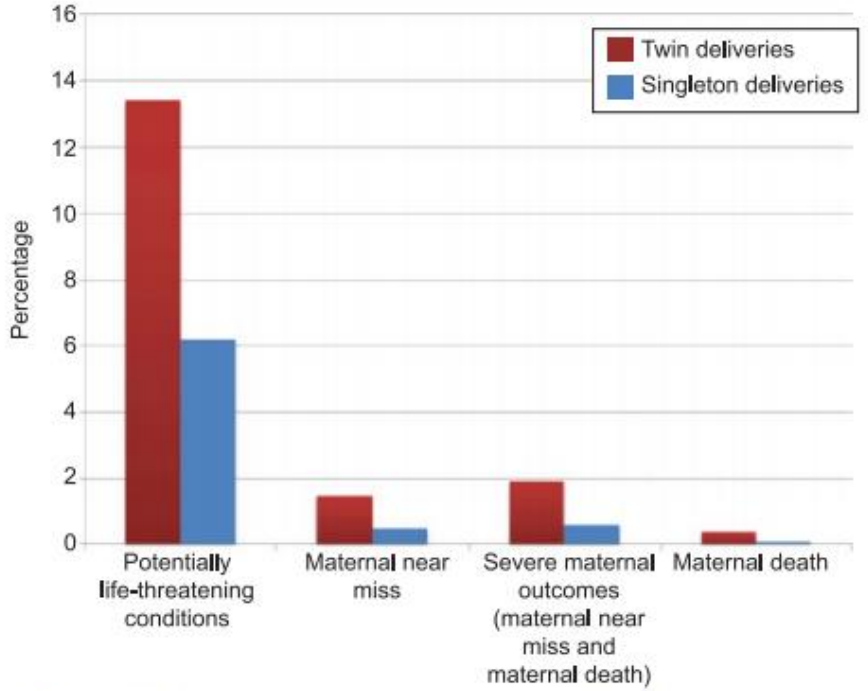


Fig. 3. Proportion of potentially life-threatening conditions, maternal near miss, severe maternal outcomes, and maternal death comparatively among twin and singleton deliveries.

Santana. Twin Pregnancy and Severe Maternal Outcomes. Obstet Gynecol 2016.

Santana DS, Cecatti JG, Surita FG, et al. Twin Pregnancy and Severe Maternal Outcomes: The World Health Organization Multicountry Survey on Maternal and Newborn Health. Obstet Gynecol 2016; 127:631.

Table 1. Potentially Life-Threatening Condition, Maternal Near Miss, and Maternal Death for Twin and Singleton Deliveries by Human Development Index, Country, and Region: World Health Organization Multicountry Survey, 2010–2011

HDI and Country	Twin Deliveries				Singleton Deliveries				
	NC (%)	PLTC (%)	MNM (%)	MD (%)	NC (%)	PLTC (%)	MNM (%)	MD (%)	*P*
Very high HDI	**206 (79.8)**	**51 (19.8)**	**0**	**1 (0.4)**	**15,138 (89.0)**	**1,785 (10.5)**	**76 (0.4)**	**7 (<0.1)**	*
Argentina	130 (85.5)	21 (13.8)	0	1 (0.7)	8,891 (92.4)	686 (7.1)	41 (0.4)	7 (0.1)	**.019**
Japan	24 (63.2)	14 (36.8)	0	0	2,858 (81.7)	620 (17.7)	21 (0.6)	0	.274
Qatar	52 (76.5)	16 (23.5)	0	0	3,389 (87.3)	479 (12.3)	14 (0.4)	0	*
High HDI	**783 (84.5)**	**129 (13.9)**	**14 (1.5)**	**1 (0.1)**	**62,073 (92.7)**	**4,546 (6.8)**	**309 (0.5)**	**16 (<0.1)**	**<.001**
Brazil	68 (84.0)	13 (16.0)	0	0	6,484 (93.0)	474 (6.8)	13 (0.2)	1 (<0.1)	.287
Ecuador	185 (93.4)	13 (6.6)	0	0	8,601 (86.1)	1,366 (13.7)	20 (0.2)	5 (0.1)	.573
Lebanon	89 (79.5)	18 (16.1)	4 (3.6)	1 (0.9)	3,745 (95.2)	172 (4.4)	14 (0.4)	1 (<0.1)	**<.001**
Mexico	134 (77.5)	32 (18.5)	7 (4.0)	0	12,123 (92.5)	863 (6.6)	120 (0.9)	2 (<0.1)	**<.001**
Peru	150 (79.8)	36 (19.1)	2 (1.1)	0	14,015 (93.4)	903 (6.0)	87 (0.6)	5 (<0.1)	**<.001**
Sri Lanka	157 (89.7)	17 (9.7)	1 (0.6)	0	17,105 (95.4)	768 (4.3)	55 (0.3)	2 (<0.1)	**.008**
Medium HDI	**1,257 (85.0)**	**199 (13.5)**	**18 (1.2)**	**4 (0.3)**	**94,905 (92.7)**	**7,014 (6.9)**	**348 (0.3)**	**87 (0.1)**	**<.001**†
Region									
Africa	**1,219 (84.2)**	**196 (13.5)**	**27 (1.9)**	**5 (0.3)**	**67,547 (93.3)**	**4,181 (5.8)**	**495 (0.7)**	**139 (0.2)**	**<.001**
Asia	**2,078 (85.8)**	**299 (12.4)**	**32 (1.3)**	**12 (0.5)**	**161,118 (94.2)**	**9,129 (5.3)**	**686 (0.4)**	**131 (0.1)**	**<.001**
Latin America	**735 (82.8)**	**141 (15.9)**	**11 (1.2)**	**1 (0.1)**	**58,412 (90.3)**	**5,935 (9.2)**	**314 (0.5)**	**24 (<0.1)**	**<.001**
Total	**4,032 (84.8)**	**636 (13.4)**	**70 (1.5)**	**18 (0.4)**	**287,077 (93.2)**	**19,245 (6.2)**	**1,495 (0.5)**	**294 (0.1)**	**<.001**

HDI, Human Development Index; NC, no complication; PLTC, potentially life-threatening condition; MNM, maternal near miss; MD, maternal death; OPT, Occupational Palestinian Territory; DR, Democratic Republic.
Data are n (%) unless otherwise specified.

Santana DS, Cecatti JG, Surita FG, et al. Twin Pregnancy and Severe Maternal Outcomes: The World Health Organization Multicountry Survey on Maternal and Newborn Health. Obstet Gynecol 2016; 127:631.

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Table 5. Estimated Risks of Maternal Near Miss (Organ Dysfunction Conditions) for Twin Deliveries: World Health Organization Multicountry Survey, 2010–2011

Organ Dysfunction Condition	Twin Deliveries	Singleton Deliveries	Total	PR_{adj} (95% CI)*
Cardiovascular dysfunction†	42 (0.9)	812 (0.3)	854 (0.3)	**3.35 (2.36–4.76)**
Respiratory dysfunction‡	34 (0.7)	525 (0.2)	559 (0.2)	**4.20 (2.89–6.11)**
Coagulation or hematologic dysfunction§	36 (0.8)	603 (0.2)	639 (0.2)	**3.87 (2.70–5.54)**
Uterine dysfunction or hysterectomy‖	13 (0.3)	353 (0.1)	366 (0.1)	**2.39 (1.32–4.31)**
Neurologic dysfunction¶	9 (0.2)	227 (0.1)	236 (0.1)	**2.57 (1.33–4.98)**
Hepatic dysfunction§	11 (0.2)	206 (0.1)	217 (0.1)	**3.46 (2.20–5.46)**
Renal dysfunction#	15 (0.3)	196 (0.1)	211 (0.1)	**4.96 (2.92–8.44)**
Any organ dysfunction**	85 (1.8)	1,756 (0.6)	1,841 (0.6)	**3.14 (2.49–3.96)**
Total	4,756	308,111	312,867	

PR_{adj}, prevalence ratio adjusted for cluster design effect; CI, confidence interval.
Data are n (%) unless otherwise specified.
Bold indicates statistical significance (95% CI not including the value 1.0).
* Adjusted for the cluster design effect.
Missing information for †220; ‡198; §182; ‖178; ¶180; #193; **259 cases.

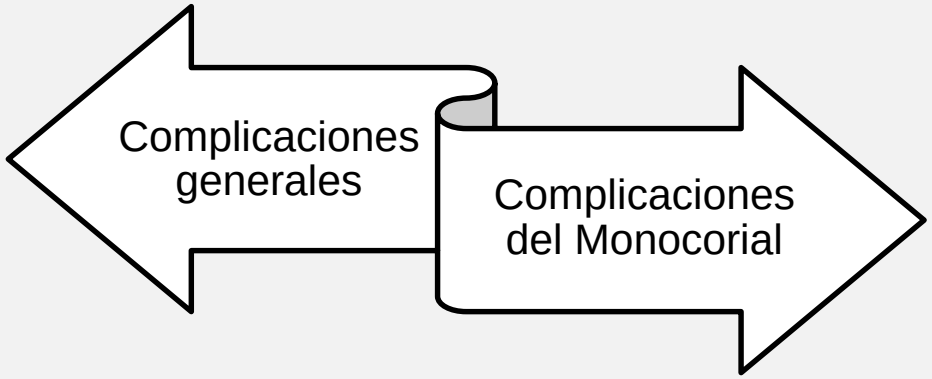
Santana DS, Cecatti JG, Surita FG, et al. Twin Pregnancy and Severe Maternal Outcomes: The World Health Organization Multicountry Survey on Maternal and Newborn Health. Obstet Gynecol 2016; 127:631.

Resultados maternos por corionicidad (Modificado de Carter et al)

	Bicorial N= 1747	Monocorial N= 554	RR no ajustado (95% IC)	OR Ajustado (95% IC)
Preeclampsia	335 (20,48%)	101 (19,35%)	0,93 (0,73-1,19)	0,92 (0,70-1,20)
Diabetes Gestacional	102 (6,23%)	34 (6,51%)	1,04 (0,70-1,57)	1,08 (0,69-1,67)
Desprendimiento de Placenta	29 (1,77%)	9 (1,72%)	0,97 (0,46-2,07)	0,90 (0,40-1,99)
Placenta Previa	15 (0,92%)	2 (0,38%)	0,42 (0,09-1,83)	0,26 (0,03-1,98)
Parto Prematuro	700 (42,79%)	212 (40,61%)	0,91 (0,75-1,12)	0,90 (0,73-1,11)
PPROM	184 (11,24%)	53 (10,15%)	0,89 (0,65-1,23)	0,83 (0,58-1,18)
Cesárea	1655 (94,74%)	524 (94,58%)	0,97 (0,64-1,48)	1,02 (0,64-1,63)

Carter EB, Bishop KC, Goetzinger KR, et al. The impact of chorionicity on maternal pregnancy outcomes. Am J Obstet Gynecol 2015; 213:390.e1.

Complicaciones Fetales



Parto Prematuro

- 50% Embarazos gemelares
- Causa más importante de morbilidad y mortalidad neonatal
- EEUU → 23% de los partos <32 semanas
- Prevención → cervicometría

Fernández C, Poblete J. Prevención de Parto Prematuro en Gemelar: ¿Qué hay de nuevo?. Rev chil obstet ginecol 2017; 82(1): 70 – 76
ISUOG Practice Guidelines: role of ultrasound in twin pregnancy. Ultrasound Obstet Gynecol 2016; 47: 247–263.

Parto Prematuro

EVOLUCIÓN DEL EMBARAZO MÚLTIPLE Y PREMATUREZ. CHILE 2000-2009

Año	NV	Múltiples =2	Múltiples >2	Total múltiples	<37 s (%)	32-36 s (%)
2000	248350	1,66	0,06	1,72	50,56	43,10
2001	245698	1,78	0,05	1,83	51,19	43,78
2002	238678	1,78	0,05	1,83	53,48	45,38
2003	234005	1,77	0,05	1,82	54,29	45,81
2004	229021	1,74	0,05	1,79	57,32	49,66
2005	230366	1,75	0,04	1,79	59,08	49,83
2006	231218	1,77	0,05	1,83	59,49	48,93
2007	239958	1,81	0,04	1,85	60,08	49,63
2008	245661	1,87	0,04	1,91	61,89	52,04
2009	251187	1,84	0,05	1,89	62,47	52,60

NV: nacidos vivos.

Gonzalez R. Et al. ¿Existe un aumento de los nacimientos en chile en el período 2000- 2009?. Rev chil obstet ginecol 2011; 76(6): 404 – 411.

Reposo hospitalizada

Analysis 1.5. Comparison 1 Hospitalisation for bed rest for women with a multiple pregnancy, Outcome 5 Preterm delivery (< 37 weeks).

Review: Hospitalisation and bed rest for multiple pregnancy

Comparison: 1 Hospitalisation for bed rest for women with a multiple pregnancy

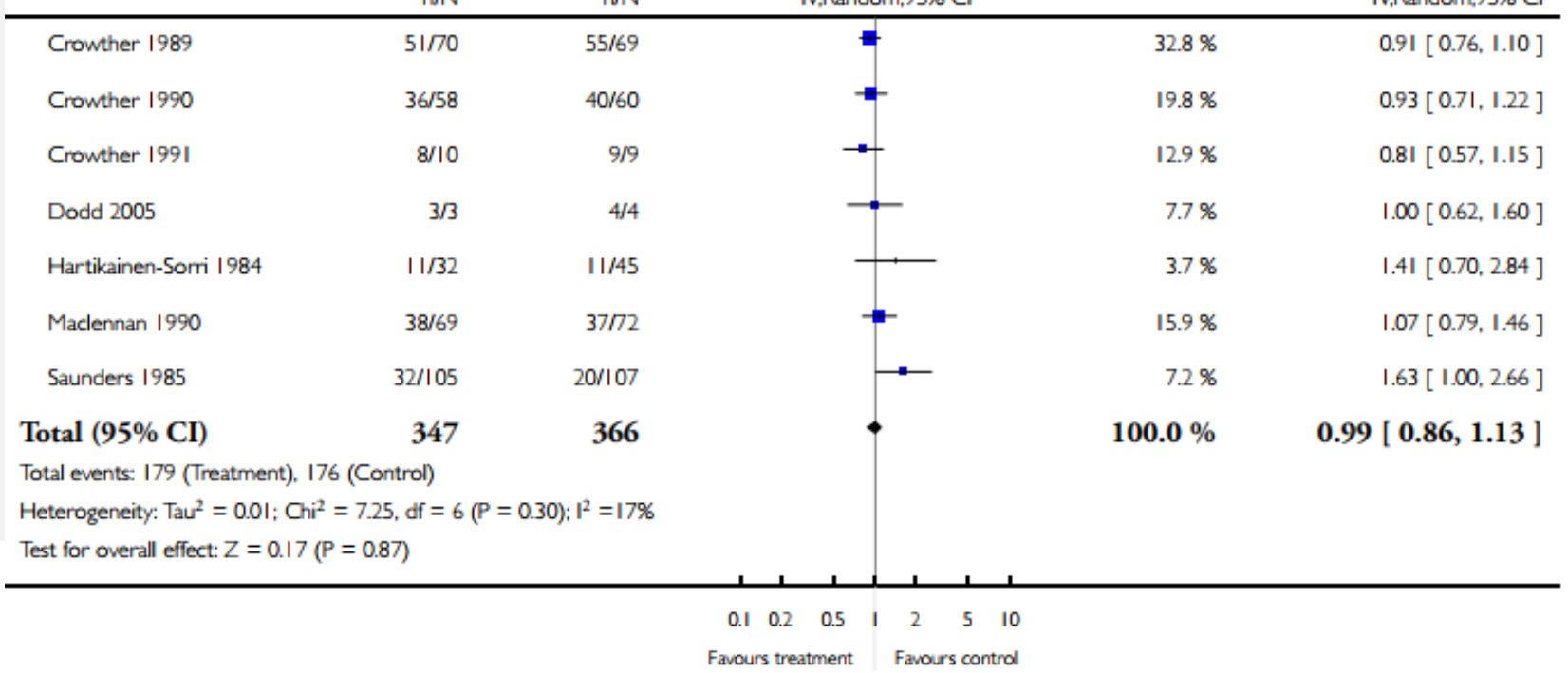
Outcome: 5 Preterm delivery (< 37 weeks)

Study or subgroup	Treatment n/N	Control n/N	Risk Ratio M,Random,95% CI	Weight	Risk Ratio M,Random,95% CI
Crowther 1989	51/70	55/69		32.8 %	0.91 [0.76, 1.10]
Crowther 1990	36/58	40/60		19.8 %	0.93 [0.71, 1.22]
Crowther 1991	8/10	9/9		12.9 %	0.81 [0.57, 1.15]
Dodd 2005	3/3	4/4		7.7 %	1.00 [0.62, 1.60]
Hartikainen-Sorri 1984	11/32	11/45		3.7 %	1.41 [0.70, 2.84]
Maclennan 1990	38/69	37/72		15.9 %	1.07 [0.79, 1.46]
Saunders 1985	32/105	20/107		7.2 %	1.63 [1.00, 2.66]
Total (95% CI)	**347**	**366**		**100.0 %**	**0.99 [0.86, 1.13]**

Total events: 179 (Treatment), 176 (Control)

Heterogeneity: $Tau^2 = 0.01$; $Chi^2 = 7.25$, df = 6 (P = 0.30); $I^2 = 17\%$

Test for overall effect: Z = 0.17 (P = 0.87)



Crowther CA, Han S. Hospitalisation and bed rest for multiple pregnancy. Cochrane Database Syst Rev 2010;(7): CD000110

Progesterona

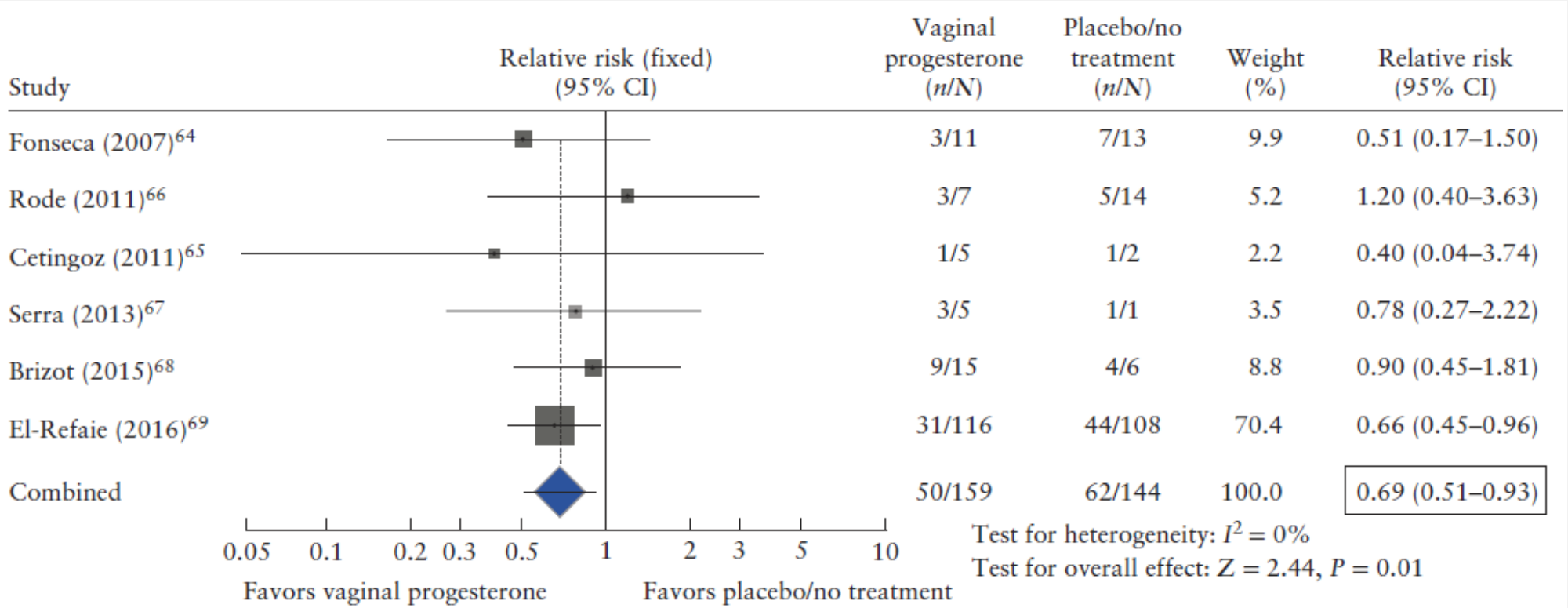


Figure 3 Forest plot of the effect of vaginal progesterone on the risk of preterm birth < 33 weeks' gestation. CI, confidence interval.

Romero R, et al. Vaginal progesterone decreases preterm birth and neonatal morbidity and mortality in women with a twin gestation and a short cervix: an updated meta-analysis of individual patient data. Ultrasound Obstet Gynecol 2017; 49: 303–314

Progesterona

Table 3 Effect of vaginal progesterone on the risk of preterm birth

Outcome	Trials (n[refs])	Events (n)/Total (N)		Pooled RR (95% CI)	I^2 (%)	NNT (95% CI)
		Vaginal progesterone	Placebo/no treatment			
Preterm birth < 37 weeks	6[64–69]	137/159	131/144	0.94 (0.86–1.02)	0	—
Preterm birth < 36 weeks	6[64–69]	112/159	110/144	0.92 (0.80–1.05)	0	—
Preterm birth < 35 weeks	6[64–69]	90/159	98/144	0.83 (0.69–0.99)	0	9 (5–147)
Preterm birth < 34 weeks	6[64–69]	63/159	78/144	0.71 (0.56–0.91)	0	6 (4–21)
Preterm birth < 32 weeks	6[64–69]	29/159	46/144	0.51 (0.34–0.77)	0	6 (5–14)
Preterm birth < 30 weeks	6[64–69]	14/159	22/144	0.47 (0.25–0.86)	0	12 (9–47)
Preterm birth < 28 weeks	6[64–69]	9/159	12/144	0.51 (0.24–1.08)	0	—
Spontaneous preterm birth < 33 weeks	6[64–69]	42/159	54/144	0.67 (0.48–0.93)	0	8 (5–38)
Spontaneous preterm birth < 34 weeks	6[64–69]	55/159	69/144	0.71 (0.54–0.93)	0	7 (5–30)

CI, confidence interval; NNT, number needed to treat; refs, reference numbers; RR, relative risk.

Romero R, et al. Vaginal progesterone decreases preterm birth and neonatal morbidity and mortality in women with a twin gestation and a short cervix: an updated meta-analysis of individual patient data. Ultrasound Obstet Gynecol 2017; 49: 303–314

Progesterona

Table 4 Effect of vaginal progesterone on the risk of adverse perinatal outcomes

Outcome	Trials (n[refs])	Events (n)/Total (N)		Pooled RR (95% CI)		I^2 (%)	NNT (95% CI)
		Vaginal progesterone	Placebo/no treatment	Assuming independence between twins	Adjustment for non-independence between twins		
Respiratory distress syndrome	6[64–69]	102/311	131/280	0.67 (0.55–0.82)	0.70 (0.56–0.89)	0	6 (4–16)
Necrotizing enterocolitis	5[64–68]	1/82	0/68	1.00 (0.04–22.43)	1.07 (0.05–22.25)	NA	—
Intraventricular hemorrhage	5[64–68]	2/80	2/68	0.93 (0.15–5.75)	1.47 (0.22–9.63)	0	—
Proven neonatal sepsis	5[64–68]	4/80	7/68	0.44 (0.13–1.46)	0.59 (0.18–1.93)	0	—
Retinopathy of prematurity	5[64–68]	1/80	1/68	0.42 (0.07–2.56)	0.45 (0.08–2.59)	17	—
Fetal death	6[64–69]	9/318	9/288	0.57 (0.23–1.42)	0.68 (0.26–1.84)	0	—
Neonatal death	6[64–69]	34/318	63/288	0.50 (0.34–0.71)	0.53 (0.35–0.81)	25	8 (5–19)
Perinatal death	6[64–69]	43/318	72/288	0.51 (0.36–0.70)	0.58 (0.39–0.84)	24	7 (5–20)
Composite neonatal morbidity/mortality*	5[64–68]	23/84	28/70	0.57 (0.36–0.93)	0.61 (0.34–0.98)	0	6 (3–109)
Birth weight < 1500 g	6[64–69]	48/315	73/280	0.52 (0.38–0.72)	0.53 (0.35–0.80)	17	7 (5–17)
Birth weight < 2500 g	6[64–69]	244/315	223/280	0.97 (0.89–1.06)	0.99 (0.89–1.10)	0	—
Admission to the NICU	6[64–69]	211/315	209/282	0.92 (0.83–1.02)	0.95 (0.84–1.08)	0	—
Mechanical ventilation	6[64–69]	49/311	76/280	0.52 (0.37–0.71)	0.54 (0.36–0.81)	0	7 (5–17)

*Occurrence of any of the following events: respiratory distress syndrome, intraventricular hemorrhage, necrotizing enterocolitis, proven neonatal sepsis or neonatal death. CI, confidence interval; NA, not applicable; NICU, neonatal intensive care unit; NNT, number needed to treat; refs, reference numbers; RR, relative risk.

Romero R, et al. Vaginal progesterone decreases preterm birth and neonatal morbidity and mortality in women with a twin gestation and a short cervix: an updated meta-analysis of individual patient data. Ultrasound Obstet Gynecol 2017; 49: 303–314

Cerclaje

Study or subgroup	Cerclage Events	Cerclage Total	Control Events	Control Total	Weight	Risk ratio M-H, Random, 95% CI
Althuisius 2001	2	8	3	9	33.6%	0.75 [0.16, 3.41]
Berghella 2004	3	3	0	1	16.9%	3.50 [0.31, 39.71]
Rust 2001	10	13	3	15	49.5%	3.85 [1.34, 11.05]
Total (95% CI)		**24**		**25**	**100.0%**	**2.19 [0.72, 6.63]**
Total events	15		6			

Heterogeneity: $\tau^2 = 0.36$; $\chi^2 = 3.13$, df = 2 ($p = 0.21$); $I^2 = 36\%$

Test for overall effect: $Z = 1.38$ ($p = 0.17$)

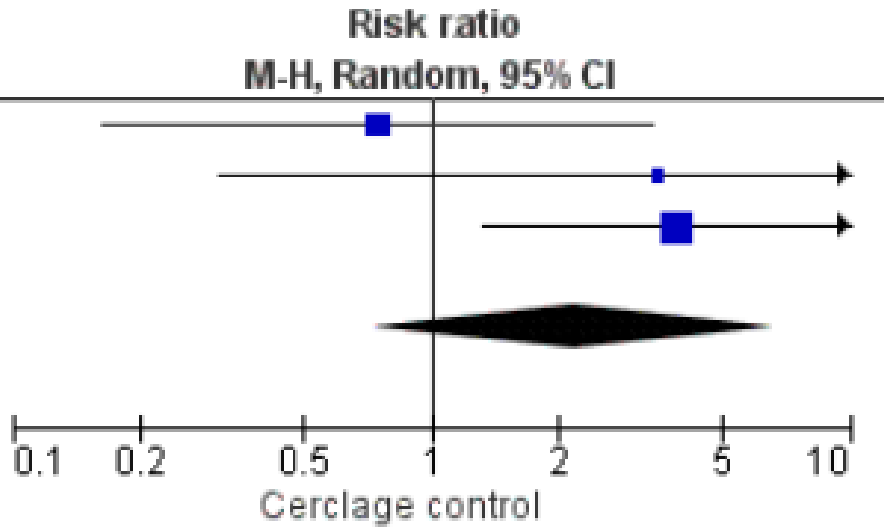


Figure 3. Meta-analysis of cerclage in twins and preterm birth at <34 weeks of gestation.

Saccone G, Rust O, Althuisius S, Roman A, Berghella V. Cerclage for short cervix in twin pregnancies: systematic review and meta-analysis of randomized trials using individual patient-level data. Acta Obstet Gynecol Scand 2015;94:352e8.

Does cervical cerclage decrease preterm birth in twin pregnancies with a short cervix?
Tracy M Adams DO, Timothy J Rafael MD, Nadia B Kunzier DO, Supriya Mishra MS, Rose Calixte PhD & Anthony M Vintzileos MD

Cerclaje

CERPO

Cervicometría

<25		<15	
Parto Pretérmino	Outcome Neonatal	Parto Pretérmino	Outcome Neonatal
No significativo	No significativo	**Significativo para parto <35 semanas**	No significativo

Pregnancy Prolongation (weeks)**	13.1 ± 4.6	8.9 ± 5.1	0.005		
PTB < 37 Weeks (N%)	19 (70.4%)	17 (81.0%)	0.51	0.87 (0.63 – 1.20)	0.88 (0.59 – 1.33)
PTB < 35 Weeks (N%)	10 (37.0%)	15 (71.4%)	0.02	0.52 (0.30 – 0.91)	0.49 (0.26 – 0.93)
PTB < 32 Weeks (N%)	5 (18.5%)	10 (47.6%)	0.06	0.39 (0.16 – 0.97)	0.31 (0.12 – 0.86)
PTB < 28 Weeks (N%)	4 (14.8%)	5 (23.8%)	0.4	0.62 (0.19 – 2.03)	0.30 (0.08 – 1.05)

Tracy M Adams DO, Timothy J Rafael MD, Nadia B Kunzier DO, Supriya Mishra MS, Rose Calixte PhD & Anthony M Vintzileos MD. Does cervical cerclage decrease preterm birth in twin pregnancies with a short cervix?. The Journal of Maternal-Fetal & Neonatal Medicine (2017).

Pesario

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TABLE 3

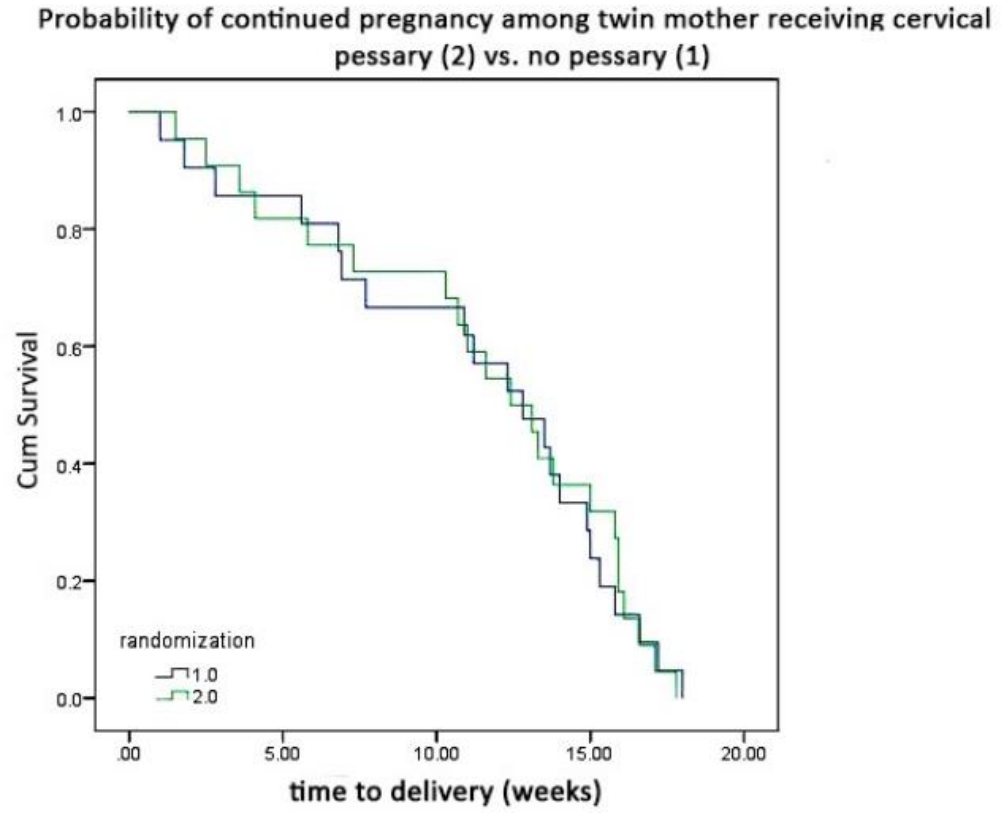
Outcomes according to cervical length at randomization ≤25 mm and >25 mm

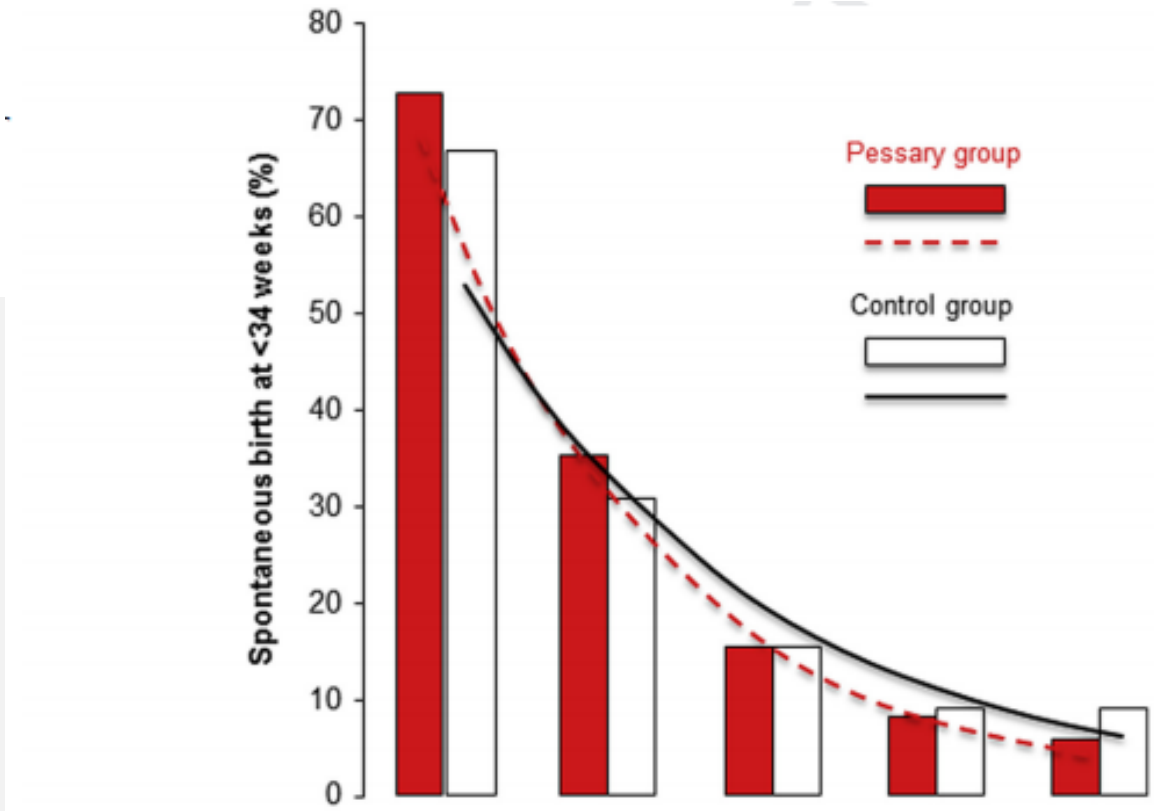
	Pregnancy level			Fetal/neonatal level		
Outcome	Pessary group	Control group	RR (95% CI)	Pessary group	Control group	RR (95% CI)
Cervical length ≤25 mm (n = 214)	n = 106	n = 108		n = 212	n = 216	
Primary outcome, n (%)						
Spontaneous birth at <34 wk	33 (31.1)	28 (25.9)	1.201 (0.784–1.839)	—	—	—
Secondary outcomes, n (%)						
Birthweight <2500 g	82 (77.4)	89 (82.4)	0.939 (0.820–1.074)	149 (70.3)	150 (69.4)	1.012 (0.894–1.146)
Birthweight <1500 g	24 (22.6)	21 (19.4)	1.164 (0.692–1.960)	45 (21.2)	36 (16.7)	1.274 (0.858–1.891)
Perinatal death	13 (12.3)	6 (5.6)	2.208 (0.872–5.592)	20 (9.4)	12 (5.6)	1.698 (0.852–3.386)
Secondary outcomes in survivors, n (%)	n = 99	n = 102		n = 192	n = 204	
Adverse neonatal event	23 (23.2)	20 (19.6)	1.185 (0.696–2.016)	34 (17.7)	30 (14.7)	1.204 (0.768–1.888)
Neonatal therapy	36 (36.4)	31 (30.4)	1.197 (0.808–1.772)	56 (29.2)	52 (25.5)	1.144 (0.829–1.579)

PROOF

Nicolaides KH, Syngelaki A, Poon LC, de Paco Matallana C, Plasencia W, Molina FS, Picciarelli G, Tul N, Celik E, Lau TK, Conturso R. Cervical pessary placement for prevention of preterm birth in unselected twin pregnancies: a randomized controlled trial. Am J Obstet Gynecol. 2016 Jan;214(1):3.e1-9.

Pesario





Cervical length (mm)	0-10	11-20	21-30	31-40	>40
Control group	11	45	196	279	58
Pessary group	12	37	211	284	44

Association between cervical length at randomization and rate of spontaneous birth at <34 weeks in pessary (red bars, red interrupted regression curve) and control (white bars, black regression curve) groups.

Nicolaides. RCT of cervical pessary in twin gestations. Am J Obstet Gynecol 2015.

- Nicolaides KH, Syngelaki A, Poon LC, de Paco Matallana C, Plasencia W, Molina FS, Picciarelli G, Tul N, Celik E, Lau TK, Conturso R. Cervical pessary placement for prevention of preterm birth in unselected twin pregnancies: a randomized controlled trial. Am J Obstet Gynecol. 2016 Jan;214(1):3.e1-9.
- Berghella V, Dugoff L, Ludmir J. Prevention of preterm birth with pessary in twins (PoPPT): a randomized controlled trial. Ultrasound Obstet Gynecol. 2017 May;49(5):567-572.

Restricción de crecimiento Fetal

Curvas de crecimiento para embarazo simple

- Tablas de gemelares
  - ¿Subestimación de RCIU tardío?

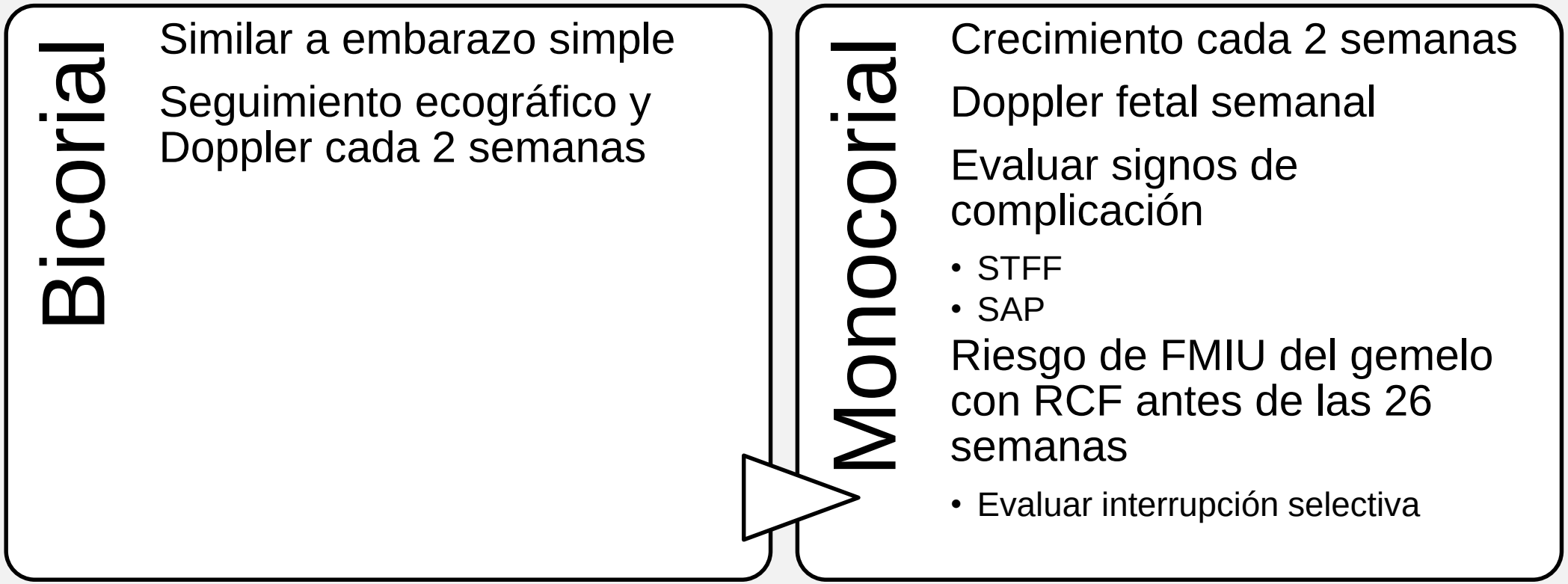
Discordancia Peso fetal >25%

- Mayor riesgo de pérdida perinatal

Mayor riesgo en Monocoriales

ISUOG Practice Guidelines: role of ultrasound in twin pregnancy. Ultrasound Obstet Gynecol 2016; 47: 247–263.

Restricción de crecimiento Fetal
Seguimiento



ISUOG Practice Guidelines: role of ultrasound in twin pregnancy. Ultrasound Obstet Gynecol 2016; 47: 247–263.

Monocorial Vs Bicorial

	Bicorial N= 1747	Monocorial N= 554	RR no ajustado (95% IC)	OR Ajustado (95% IC)
Restricción de Crecimiento fetal	372 (21,29%)	118 (21,30%)	1,00 (0,79-1,26)	1,04 (0,82-1,32)
Parto <34 semanas	337 (19,79%)	137 (25,75%)	**1,41 (1,12-1,77)**	**1,47 (1,17-1,86)**
Parto <28 semanas	41 (2,41%)	30 (5,64%)	**2,42 (1,50-3,92)**	**2,58 (1,58-4,20)**
Ingreso a UCI neonatal	334 (21,02%)	164 (27,13%)	**1,40 (1,11-1,76)**	**1,41 (1,12-1,78)**
Muerte fetal intrauterina	56 (3,21%)	29 (5,23%)	**1,67 (1,05-2,64)**	**1,81 (1,13-2,82)**
Muerte Neonatal	29 (1,66%)	4 (0,72%)	0,43 (0,15-1,23)	0,43 (0,13-1,47)

Carter EB, Bishop KC, Goetzinger KR, et al. The impact of chorionicity on maternal pregnancy outcomes. Am J Obstet Gynecol 2015; 213:390.e1.

Complicaciones del embarazo monocorial

- **Síndrome de Transfusión Feto-fetal (STFF)**
  - Incidencia 1 – 3 x 100.000 RNV.
  - 10-20% gemelos monocoriales
- **Secuencia Anemia Policitemia (SAP)**
  - incidencia 3 a 5% de gemelos monocoriales
  - 2 - 13% post laser por STFF
- **Restricción de Crecimiento Fetal Selectiva (RCFs)**
  - Incidencia 11 a 14% de gemelos monocoriales.
- **Secuencia Perfusión Arterial Reversa (TRAP)**
  - Incidencia 1 en 35.000 embarazos,
  - 1% de gestaciones monocoriales.
- **Muerte intrauterina del co-gemelo**
  - Incidencia 12% de las gestaciones monocoriales

- Sepúlveda A. Guía clínica: Complicaciones de embarazo gemelar monocorial. Hospital Clínico Universidad de Chile.
- Djaafri F, Stirnemann J, Mediouni I, Colmant C, Ville Y. Twinetwin transfusion syndrome - What we have learned from clinical trials. Seminars in Fetal & Neonatal Medicine xxx (2017) 1e9.

Flujograma de manejo

Bicorial – Biamniótico

- Control Ecográfico cada 2 semanas

Monocorial

- Control Ecográfico cada semanal

Eco 11-14

- Corionicidad
- Marcadores de STFF

Eco Tardía

- Marcadores de 2° trimestre de corionicidad

Cuello <25 mm

- Progendo

Cuello <15 mm sintomática

- Evaluar signos de infección para eventual cerclaje

Flujograma de manejo

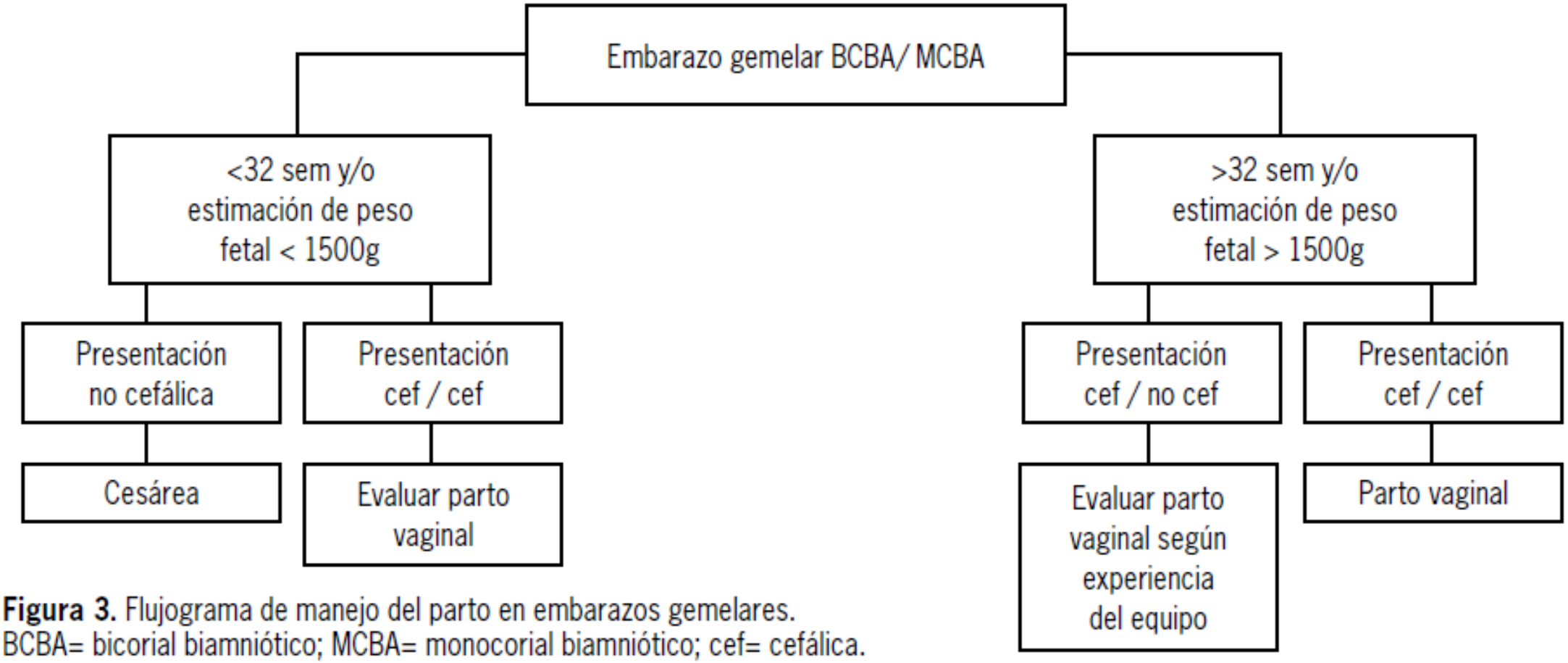


Figura 3. Flujograma de manejo del parto en embarazos gemelares.
BCBA= bicorial biamniótico; MCBA= monocorial biamniótico; cef= cefálica.

Kiekebusch G, Valdes E, Parra M. Serie guias clinicas: manejo del embarazo Gemelar. Rev Hosp Clin Univ Chile 2016; 27: 246 – 58

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Centro de Referencia Perinatal Oriente

Facultad de Medicina, Universidad de Chile

Seminario Nº 71
Embarazo Gemelar

Dr. Sebastián Martínez González, Dr. Daniel Martin, Dr. Juan Guillermo Rodriguez, Dra. Daniela Cisternas O.

10 de Mayo de 2021.-