

Administración intraparto de antibióticos y cólicos infantiles: ¿hay conexión?

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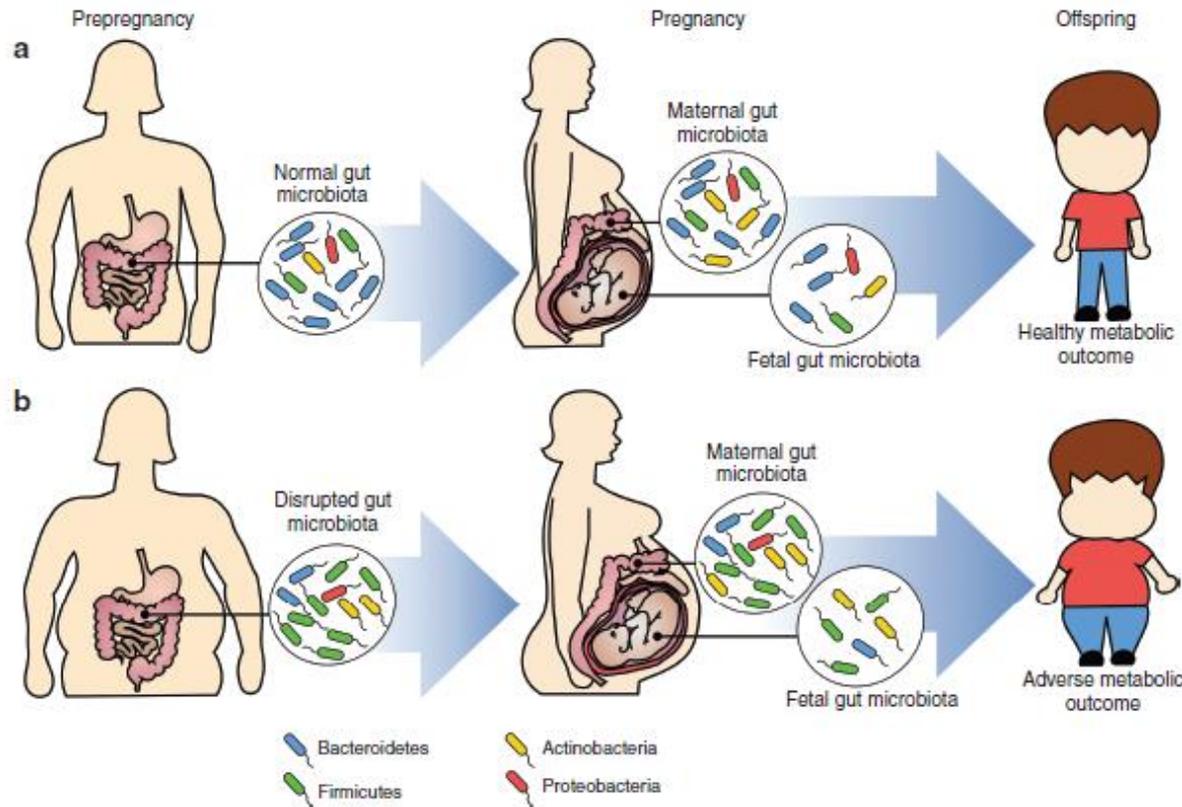


Figure 1. Overview of maternal gut microbiome modulation with pregnancy ± obesity. Maternal gut microbiota composition changes over the course of pregnancy. It is proposed that a lean woman possesses a stable, healthy gut microbiota that is modulated over the course of pregnancy (a). How that is transferred to the fetus *in utero*, is still unknown, but may facilitate normal gut development and metabolic function in the offspring. Obese women (b) likely present with a disrupted gut microbiota already before pregnancy, and this is either amplified or further modified with pregnancy adaptations. These modifications lead to aberrant intrauterine environment that could lead to fetal poor/altered gut development and mediated increased chronic disease risk. Adapted with permission from ref. (58).

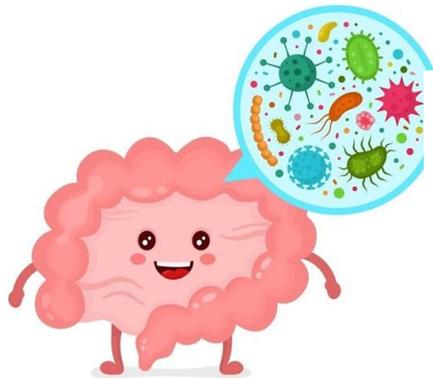
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Antecedentes:

- ★ Definición: 3 x 3 x 3
- ★ Prevalencia: 10 - 40%
- ★ Carga de enfermedad
- ★ Etiología: microbiota intestinal (?)



Association Between Childhood Migraine and History of Infantile Colic

Conclusion and Relevance The presence of migraine in children and adolescents aged 6 to 18 years was associated with a history of infantile colic. Additional longitudinal studies are required.

JAMA. 2013;309(15):1607-1612

www.jama.com

Estudio:



Método: 77 infantes de más de 37 semanas de gestación, 2 estudios diferentes, 44 infantes con cólicos, 29 controles . Se excluyeron aquellos con anomalías congénitas o con algún cuadro agudo. Para diagnóstico de cólico se consideró llanto **mayor a 180 minutos**. Para control, menor a 90.

Estudio 1: estudio randomizado, donde se controló la ingesta de probióticos en infantes de término quienes se grabaron por 3 días a las edad de 6 semanas. Al fin del estudio se consiguió 30 infantes con cólicos.

Estudio 2: Estudio prospectivo que incluyó 116 infantes, se grabaron por 7 días a la edad de 6 semanas. Al final del estudio se consiguieron 18 infantes con cólicos y 29 sanos.

Variables perinatales a considerar

- Duración del embarazo
- Tabaquismo durante el embarazo
- Vía del parto
- Peso de nacimiento
- Apgar
- Uso de antibióticos intraparto
- Uso de antibióticos neonatales
- Lactancia materna exclusiva



Resultados

Table 1. Background and clinical characteristics of the infants

	Infantile colic	Healthy	<i>p</i> value
Duration of pregnancy, weeks	40 ^{1/7} (37 ^{3/7} to 42 ^{6/7})	40 ^{2/7} (37 ^{4/7} to 42)	0.95
Maternal smoking during pregnancy, <i>n</i> (%)	4/48 (8)	3/29 (10)	0.77
Antibiotic exposure during pregnancy, <i>n</i> (%)	12/48 (25)	3/29 (10)	0.10
Intrapartum antibiotic exposure, <i>n</i> (%)	11/48 (23)	1/29 (3)	0.012
Caesarean section delivery, <i>n</i> (%)	10/48 (21)	4/29 (14)	0.43
Birth weight, g	3,523 (2,370 to 4,700)	3,731 (2,770 to 4,800)	0.078
Birth weight Z score	-0.5 (-2.5 to 1.7)	0.0 (-1.9 to 2.3)	0.046
5 min Apgar score	9 (7-10)	9 (8-10)	0.28
Neonatal antibiotic exposure, <i>n</i> (%)	5/48 (10)	3/29 (10)	0.99
Exclusive breastfeeding at 1 month of age, <i>n</i> (%)	25/46 (54)	23/28 (82)	0.012

Continuous variables are expressed as percentage or mean with range and differences between the infants with and without colic are compared using 2-tailed Student *t* test. Dichotomic variables are expressed as percentages and compared using the chi-square test.

Table 2. Logistic regression model of perinatal and neonatal exposures and the development of infantile colic

Exposure	Adjusted OR for infantile colic	95% CI	<i>p</i> value
Duration of pregnancy, weeks	1.16	0.74–1.85	0.52
Maternal smoking during pregnancy	0.14	0.01–1.24	0.077
Antibiotic exposure during pregnancy	5.56	1.17–37.27	0.030
Intrapartum antibiotic exposure	13.31	1.98–272.20	0.0052
Caesarean section delivery	1.36	0.27–7.93	0.71
Birth weight Z score	1.18	0.64–2.18	0.59
Neonatal antibiotic exposure	1.74	0.27–12.65	0.56
Exclusive breastfeeding at 1 month of age	0.17	0.03–0.74	0.016

Discusión:

En este estudio se encontró una asociación entre el uso de antibióticos durante el embarazo y durante el parto con el desarrollo de cólicos del lactante.

Estos resultados apoyan la teoría de desbalance de la microbiota intestinal temprana del neonato.

El mecanismo aún no es bien entendido, ya que el uso de antibióticos neonatales o la cesárea no se asoció a mayor incidencia de cólicos.

Interesantemente poco se ha dicho sobre la lactancia materna exclusiva y los cólicos del lactante. De hecho parte de las medidas para tratarlos es el uso de fórmulas hipoalergénicas. También se ha visto que el uso de probióticos solo tiene evidencia cuando se acompaña de LME, no así fórmula.

Faltan estudios a largo plazo de seguimiento y con análisis de heces y de composición de bacterias de leche materna.

Bibliografía

1. Elli Leppälehto et al. (June 25, 2018). Maternal Intrapartum Antibiotic Administration and Infantile Colic: Is there a Connection?. *Neonatology*, 114, 226-229.[doi: 10.1159/000489991](https://doi.org/10.1159/000489991)
2. Wajiha Gohir, Elyanne M. Ratcliffe and Deborah M. Sloboda. (January 2015). Of the bugs that shape us: maternal obesity, the gut microbiome, and long-term disease risk. *Pediatric RESEARCH*, 77, 196-204.[doi:10.1038/pr.2014.169](https://doi.org/10.1038/pr.2014.169)
3. Silvia Romanello et al. (April 2013). Association Between Childhood Migraine and History of Infantile Colic. *Journal of American Medical Association*, 309, 1607-1612.