Correction of relative risk in neonatal sepsis

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Respectable editor.

I read with interest the article "Prolonged exposure to antibiotics and the risk of late-onset sepsis (LOS) in neonates of 1000-1500 g: a cohort study", by doctor Briones Lara.,¹ published at *Gaceta Médica de México*.

The authors calculated the relative risk (RR) in two groups of neonates: exposed (receiving antibiotics for > 5 days) and non-exposed (< 5 days), with the probability for developing late-onset sepsis and necrotizing enterocolitis in premature neonates with 1000 to < 1500 g body weight. They reported an incidence of late-onset sepsis of 65.3 % (32/49) in exposed and 8.1 % (4/49) in non-exposed neonates, and 24.5 % (12/49) and 4.0 % (2/49), respectively, for necrotizing enterocolitis.

The reported RR calculated for developing late-onset sepsis was 21.1 (95 % CI = 6.5-68.9), a figure that actually corresponds to the odds ratio (OR); the corrected RR for late-onset sepsis must be 8.6 (95 % CI = 3.05-20.9). Similarly, the RR for developing necrotizing enterocolitis that was indicated was 7.6 (95 % CI = 1.6-36.1), which should be 6.0 (95 % CI = 1.4-25.4). The RR correction was performed using Epi-info version 7.2 for Windows.²

In cohort studies, RR and OR can be estimated to measure the strength of association, but there are

conditions for both these measurements to be considered as being equivalent; the most important is that the disease of interest must have a low prevalence in the exposed group.³ When this condition is met, RR and OR are a good approach and can be indistinctively used. In the commented report, incidence of the outcomes was very high: 65.3 % (32/49) developed late-onset sepsis and 24.5 % (12/49), necrotizing enterocolitis. Due to the elevated frequency in exposed children, RR and OR shouldn't have been used indistinctively.

Corrected RR for late-onset sepsis and necrotizing enterocolitis shows a strong correlation between antibiotic-exposure time and the development of unfavorable outcomes (late-onset sepsis and necrotizing enterocolitis).

The above observations are by no means intended to invalidate the results reported in the study.

References

- Briones-Lara E, Treviño-Báez J, Caballero-Trejo A, Irruegas-Maeda A, Palacios-Saucedo GC, Ramírez-Rosalino MC. Exposición prolongada a antibióticos y riesgo de sepsis tardía (ST) en neonatos de 1,000 a < 1,500 g: estudio de cohorte. Gac Med Mex 2015;151:306-312.
- Epi-info for Window V7.2. Disponible en: https://www.cdc.gov/epiinfo/ support/downloads.html.
- 3. Gordis L. Epidemiología. España: Elsevier-Saunders; 2005.

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