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Letters to the Editor

Tuberculosis in infants less than 3 months of age of Risaralda, Colombia☆

Tuberculosis en lactantes menores de 3 meses de Risaralda, Colombia

Dear Editor,

We eagerly read a brief original study by Rosal Rabes et al.,[1] who reviewed the cases of tuberculosis (TB) in infants under 3 months of age from 1978 to 2014 at Hospital Universitario de La Paz in Madrid, Spain, and found 8 cases in a total of 555 children under 14 years of age (1.4%). We agree with the interesting and important aspects of the study, and we would like to take advantage of the opportunity to present what is occurring in a department (greater territorial unit) of Colombia, specifically Risaralda, with respect to TB in infants under 3 months of age.

Risaralda is a department in western Colombia with 946,626 inhabitants as of 2014, 1.62% (15,290) of whom are under one year of age. TB is a significant public health problem in this department, with an overall incidence of approximately 25 cases per 100,000 inhabitants (2010).[2] When the registry of cases of TB in infants under 3 months of age diagnosed with TB in the department of Risaralda between 1 January 2008 and 31 December 2013 was reviewed, it was found that 209 cases of TB had been diagnosed in children under 14 years of age. Among them, 7 were infants under 3 months of age. These accounted for 3.34% of paediatric cases of TB (Table 1).

The mean age at the time of diagnosis was 58 days (interquartile range: 29–58 days); 4 were male and one was just one day old (potentially congenital TB). Two were indigenous children, and 4 were from Pueblo Rico, the city with the highest indigenous population in the department. Just one patient was asymptomatic. The time from the onset of symptoms to diagnosis in these cases ranged from 0 to 28 days. Two patients had meningeal TB, and the rest had pulmonary TB (Table 1).

In Colombia, in this population, the tuberculin test has little diagnostic value, as the BCG vaccine is administered at birth. In this series, only 2 of the patients did not have a BCG scar. In 3 cases, culture (gastric aspirate) was performed and found to be positive. In 3 of them, radiographic findings consistent with TB (lymphadenopathy and infiltrates) were found (Table 1). All of them received standard treatment, according to the Colombian national TB management programme[3]—isoniazid, rifampicin and pyrazinamide (6 months overall, with an initial intensive phase with these 3 drugs daily and then a second biweekly phase with H [isoniazid] and R [rifampicin])—with good tolerance.[3] All patients progressed favourably and none died.

As Rosal Rabes et al.[1] affirmed, TB is uncommon in infants under 3 months of age, but potentially very serious, and in many cases, not considered or suspected in newborns. We would like to thank the authors for publishing the study which inspired us to review the subject in question and to think about future more in-depth and prospective studies in this regard, since despite its seriousness, there are few series on TB in newborns and young infants in the literature and in Colombia, and previously no such series in Risaralda.[4,5]

Table 1
Characteristics of the infants under 3 months of age with tuberculosis in Risaralda, Colombia, from 2008 to 2013.

Case	Year	Age (days)	Gender	Ethnicity	Time to seek care (days)[a]	TB type	BCG scar	Symptoms[b]	Culture	Radiographic diagnosis[c]	Index case
1	2008	58	Male	Indigenous	25	Meningeal	Yes	Yes	Positive	No	Unknown
2	2011	58	Female	Mixed	0	Pulmonary	Yes	Yes	Not performed	No	Unknown
3	2011	58	Female	Mixed	0	Pulmonary	Yes	Yes	Not performed	Yes	Family/home
4	2012	29	Male	Mixed	1	Meningeal	Yes	Yes	Positive	No	Unknown
5	2013	1	Female	Mixed	0	Pulmonary	No	No	Not performed	Yes	Mother
6	2013	29	Male	Mixed	0	Pulmonary	No	Yes	Positive	Yes	Community
7	2013	58	Male	Indigenous	28	Pulmonary	Yes	Yes	Not performed	No	Family/home

[a] Time elapsed between the date on which symptoms started and the date on which care was sought.
[b] Symptoms suggestive of TB (fever, cough and respiratory difficulty).
[c] Changes suggestive of TB, chest X-ray.

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References

1. Rosal Rabes T, Baquero-Artigao F, Méndez-Echevarría AM, Mellado Peña MJ. Tuberculosis en lactantes menores de 3 meses. Enferm Infecc Microbiol Clin. 2015, http://dx.doi.org/10.1016/j.eimc.2015.03.011
2. Castañeda-Hernández DM, Rodriguez-Morales AJ. Epidemiological burden of tuberculosis in developing countries. In: Rodriguez-Morales AJ (editor). Current topics in public health, Chapter 15. Croatia; InTech; 2013. p. 317–340.
3. Ministerio de Salud de Colombia. Guía de atención de la tuberculosis pulmonar y extrapulmonar. Bogotá: Ministerio de Salud; 2010.
4. Sosa LM, Cala LL, Mantilla JC. Tuberculosis congénita asociada con tuberculosis materna miliar diseminada. Biomedica. 2007;27:475–82.
5. Villegas SL, Ferro BE, Rojas CM, Perez-Velez CM. Assessment of children exposed to adult pulmonary tuberculosis in Cali, Colombia. Paediatr Int Child Health. 2014;34:170–7.

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Reply to "Tuberculosis in infants less than 3 months of age from Risaralda, Colombia"☆

Réplica a «Tuberculosis en lactantes menores de 3 meses de Risaralda, Colombia»

Dear Editor,

We appreciate Zapata-Martín A.'s letter on tuberculosis in infants under 3 months of age in the department of Risaralda (Colombia). This letter brings to light the difficulties involved in clinical and microbiological diagnosis in these patients. In the case series, 2 infants had a diagnostic delay of more than 3 weeks, and only 3 of the 7 infants under 3 months of age in whom tubercular disease was suspected underwent gastric juice culture.

BCG vaccination, which is performed at birth in Colombia, invalidates the interpretation of the tuberculin test. The new immunological diagnostic tests (IGRAs) are not available in many laboratories and have low sensitivity in small infants. Gastric aspirate culture requires collecting several samples and has low sensitivity compared to sputum culture in adults. However, the diagnostic yield of bacilloscopy and gastric juice culture in infants under 3 months of age exceeds that in older children.[1] In addition, microbiological confirmation is considered the gold standard for diagnosing the disease and allows an antibiogram to detect resistant strains to be performed.[2] Colombia has a very high rate of resistance to anti-tuberculosis drugs in children under 15 years of age (21% in 2009), with rates of resistance to isoniazid exceeding 12% and rates of multi-drug resistant strains of 6.5%.[3] Therefore, we believe that every effort should be made to collect microbiological samples in all patients, especially those with no isolation in the index case.

In 3 of the infants studied, the index case was unknown. Our series also found 3 patients with an unknown index case, but with a strong suspicion of maternal genital tuberculosis, as the mothers had a positive tuberculin test, a normal chest X-ray and no identified contact with bacilliferous tuberculosis. Tuberculosis in an infant under 3 months of age involves congenital infection or postnatal transmission from a bacilliferous adult. Therefore, it is essential to conduct a full contact study to prevent the transmission of the disease and the appearance of new cases of tuberculosis.[4]

Finally, we would like to make a consideration with respect to treatment. All infants were treated according to the regimen recommended in Colombia for children under 15 years of age. This regimen consists of administering 3 drugs (isoniazid, rifampicin and pyrazinamide) for 8 weeks followed by bitherapy with isoniazid and rifampicin 2 times per week until 6 months have elapsed.[5] We believe that, given the high rate of resistance, it would be important to start treatment with 4 drugs if the sensitivity of the strain from the child or from the index case is unknown. In addition, we recommend continuing treatment for at least 9 months in infants under 3 months of age with tuberculosis, and extending it up to 12 months in those with meningeal involvement.[6]

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References

1. Schaaf HS, Collins A, Bekker A, Davies PDO. Tuberculosis at extremes of age. Respirology. 2010;15:747–63.
2. Moreno-Pérez D, Andrés Martín A, Altet Gómez N, Baquero-Artigao F, Escribano Montaner A, Gómez-Pastrana Durán D, et al. Diagnóstico de tuberculosis en la edad pediátrica. Documento de consenso de la Sociedad Española de Infectología Pediátrica (SEIP) y la Sociedad Española de Neumología Pediátrica (SENP). An Pediatr (Barc). 2010;73:143.e1–14.
3. Llerena C, Fadul SE, Garzón MC, Mejía G, Orjuela DL, García LM, et al. Resistencia de *Mycobacterium tuberculosis* a los fármacos antituberculosos en menores de 15 años en Colombia. Biomedica. 2010;30:362–90.
4. Schaaf HS, Gie RP, Beyers N, Smuts N, Donald PR. Tuberculosis in infants less than 3 months of age. Arch Dis Child. 1993;69:371–4.

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