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Reply to "Implementation of molecular techniques for diagnosis of mumps"☆

Respuesta a «Implementación de técnicas moleculares para el diagnóstico de parotiditis epidémica»

Dear Editor,

We were pleased to find that the results provided by Navalpotro Rodríguez et al.[1] coincide with our data which were published recently in the EIMC journal.[2] In their study, more than two-thirds of IgM-negative mumps cases—which obtained positive results with a Real-Time Polymerase Chain Reaction (RT-PCR)—showed elevated specific IgG levels (understood to be above the measurement limit of the chemiluminescence technique employed).[1] Unlike what happens with the other components of the MMR vaccine, in those that have international units of IgG (mIU/ml for measles and IU/ml for rubella), which enable the comparison of serological results from different studies,[3] in the case of mumps there is no standard serum that can be referred to in international units.[4] Moreover, the quantitation of IgG is expressed in terms of titres or arbitrary units relating to the techniques used.[1,2] Furthermore, the difficulties regarding the standardisation of quantitation methods for IgG in mumps[4] may hinder the comparison of data provided by different laboratories.[5] The fact that approximately a quarter of the cases which are negative with RT-PCR will also present a high degree of positivity, can perhaps be partly explained by the trend in the results obtained by laboratory tests for the diagnosis of mumps. RT-PCR techniques prove more sensitive in the early phases, following the onset of symptoms[6,7] but may come back negative as the infection advances. Thus, a negative RT-PCR result (in the late stages) does not definitively rule out infection. IgM detection improves from the second week, but lacks sensitivity in the vaccinated population.[6,7] Identifying elevated levels of specific IgG may increase this sensitivity. However, raised IgG levels may of course not prove too specific. The current Spanish vaccination schedule involves administering two doses of the MMR vaccine at 12 months and 3–4 years of age. Between 2007 and 2016, vaccination coverage in older children was sustained at 95% with the first dose and 90% with the second dose.[8] In our field, the levels of seroprevalence against mumps in young adults are approaching 90%.[9] However, despite this, mumps continues to appear in a cyclic presentation in Spain.[10] The emergence of periodic epidemic waves may lead to a "booster" effect in vaccinated individuals which prompts a raise in specific antibody levels after coming into contact with circulating wild-type viruses. We wholeheartedly agree with the authors that the implementation of RT-PCR on saliva samples is currently the best method for confirming mumps cases in our field. Serology may continue to be of interest in unvaccinated groups, in the conduct of epidemiological studies and in special circumstances where it was not possible to obtain samples in the early phases of the disease.

References

1. Navalpotro Rodríguez D, Torrecillas Muelas M, Melero García MM, Gimeno Cardona C. Implementación de técnicas moleculares para el diagnóstico de parotiditis epidémica. Enferm Infecc Microbiol Clin. 2018, http://dx.doi.org/10.1016/j.eimc.2018.04.006.
2. Sanz JC, Ramos B, Fernández A, García-Comas L, Echevarría JE, de Ory F. Diagnóstico serológico de parotiditis epidémica: valor de la titulación de IgG específica. Enferm Infecc Microbiol Clin. 2018;36:172–4.
3. García-Comas L, Sanz Moreno JC, Ordobás Gavín M, Barranco Ordóñez D, García Gutiérrez J, Ramos Blázquez B, et al. Seroprevalence of measles and rubella virus antibodies in the population of the Community of Madrid, 2008–2009. J Infect Public Health. 2015;8:432–40.
4. Tischer A, Andrews N, Kafatos G, Nardone A, Berbers G, Davidkin I, et al. Standardization of measles, mumps and rubella assays to enable comparisons of seroprevalence data across 21 European countries and Australia. Epidemiol Infect. 2007;135:787–97.
5. Kafatos G, Andrews N, McConway KJ, Anastassopoulou C, Barbara C, de Ory F, et al. Estimating seroprevalence of vaccine-preventable infections: is it worth standardizing the serological outcomes to adjust for different assays and laboratories? Epidemiol Infect. 2015;143:2269–78.
6. Mankertz A, Beutel U, Schmidt FJ, Borgmann S, Wenzel JJ, Ziegler P, et al. Laboratory-based investigation of suspected mumps cases submitted to the German National Reference Centre for Measles, Mumps, and Rubella, 2008 to 2013. Int J Med Microbiol. 2015;305:619–26.
7. Patel LN, Arciuolo RJ, Fu J, Giancotti FR, Zucker JR, Rakeman JL, et al. Mumps outbreak among a highly vaccinated university community—New York City, January–April 2014. Clin Infect Dis. 2017;64:408–12.
8. Coberturas de vacunación. Datos estadísticos. Ministerio de Sanidad, Servicios Sociales e Igualdad. Gobierno de España. Available at: http://www.msssi.gob.es/profesionales/saludPublica/prevPromocion/vacunaciones/coberturas.htm [accessed 29.05.18].
9. González-Escalada A, García-García L, Viguera-Ester P, Marín-García P, García J, Gil-de-Miguel A, et al. Seroprevalence of antibodies against measles, rubella, mumps, varicella-zoster, and B. pertussis in young adults of Madrid, Spain. Hum Vaccin Immunother. 2013;9:1918–25.
10. López-Perea N, Masa-Calles J, Torres de Mier MV, Fernández-García A, Echevarría JE, de Ory F, et al. Shift within age-groups of mumps incidence, hospitalizations and severe complications in a highly vaccinated population, Spain, 1998–2014. Vaccine. 2017;35:4339–45.

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Epidemiology of tuberculosis in Spain: Areas of improvement in epidemiological surveillance and contributions from the Spanish Network for the Study of Paediatric Tuberculosis☆

Epidemiología de la tuberculosis en España: áreas de mejora en la vigilancia epidemiológica y aportaciones desde la Red Española de Estudio de Tuberculosis Pediátrica

Dear Editor,

We read with interest the article by Cano-Portero et al.[1] on the epidemiology of tuberculosis (TB) in Spain in 2015. The work undertaken by the Spanish National Epidemiological Surveillance Network is, in our opinion, of vital importance, since it actively monitors one of the priority lines in the fight against TB.

According to the authors, in 2015, 335 cases of TB were declared in children under 15 years of age in Spain. These data differ from the Report by the European Centre for Disease Prevention and Control (ECDC) for the same year (270 paediatric cases).[2] This discrepancy highlights the need to improve institutional coordination in order to accurately determine the scope of paediatric TB in Spain.

Spain has a low prevalence of TB, with an incidence of 10.5/100,000 inhabitants in 2015, 7% of which were paediatric cases. Childhood TB continues to be a significant problem in our midst, with Spain being the country with the most paediatric cases in Western Europe.[2] For decades, childhood TB has been neglected by both national and international policies, due to its lower incidence compared to adults, diagnostic difficulties and its less contagious nature. However, children are particularly vulnerable to TB, with a greater risk of developing severe forms. This is especially the case in those under 2 years of age, where the rate of progression reaches 50%.[3] Moreover, children also constitute a sentinel event of recent transmission in the community, and represent a niche for future TB infections. It is therefore paramount that we accurately define the impact of paediatric TB in Spain, establishing measures for the early identification and treatment of high-risk patients.

We would like to use this letter to highlight the work of the Spanish Paediatric TB Network (pTBred),[4] founded in 2014, which forms part of the European Network (pTBnet).[5] Among its lines of work, the recording of paediatric cases is particularly notable, broadening the perspective of the Spanish national epidemiological surveillance system. Since 2014, 83 institutions and 141 investigators have taken part, and 570 cases of active TB have been recorded, 47.8% of which correspond to patients under 5 years of age.

The report by Cano-Portero et al. lists the countries of origin of 97% of the cases, grouped as those born in or outside of Spain, with 30% being foreign-born. The country of birth of these foreign-born cases, however, is unknown in 32%. In the PTBred cohort, we delved deeper into the patients' origin, learning the country of birth of 98.4% of the children (81.1% Spanish) and 98.2% of their parents (55.9% foreign).

The surveillance of these circulating drug-resistant TB strains is one of the current priorities for the epidemiological control of TB.[6] Monitoring paediatric cases is of great importance, since childhood TB is usually due to a recent primary infection. The reactivation of latent strains is rare. Cano-Portero et al. report 70% confirmed cases, but only have sensitivity results for 26% and do not provide details of the isoniazid resistance rate. The study also reports no age-disaggregated data. In our registry, the confirmation rate is 36.9%, which coincides with the literature.[7] 11.2% of the children presented some form of drug resistance, with 5.6% resistant to isoniazid and 1% multidrug-resistant (MDR). Notably, the most recent annual report by the ECDC[2] also provided no data on drug-resistant TB in Spain, in contrast to other European countries, despite Spain being one of the countries with the highest levels of immigration from Eastern Europe, where MDR TB is a monumental problem.

Although TB is one of the priorities of Public Health, there are still important gaps regarding the situation in Spain. pTBred is working incredibly hard to improve knowledge on the epidemiology and usefulness of new diagnostic and therapeutic tools in children. In our opinion, the data on this cohort may shed more light on paediatric TB, a sentinel of overall TB in Spain, especially when data on circulating drug-resistant strains are provided. We agree with Cano-Portero et al. concerning the need to establish a political commitment and to improve intersectoral cooperation, following the recommendations of the WHO's Global Strategy,[8] to advance towards global TB control.

References

1. Cano-Portero R, Amillategui-dos Santos R, Boix-Martínez R, Larrauri-Cámara A. Epidemiología de la tuberculosis en España Resultados obtenidos por la Red Nacional de Vigilancia Epidemiológica en el año 2015. Enferm Infecc Microbiol Clin. 2018;36:179–86.
2. European Centre for Disease Prevention and Control. Tuberculosis surveillance and monitoring in Europe 2017; 2017.
3. Marais BJ, Gie RP, Schaaf HS, Hesseling AC, Obihara CC, Starke JJ, et al. The natural history of childhood intra-thoracic tuberculosis: a critical review of literature from the pre-chemotherapy era. Int J Tuberc Lung Dis. 2004;8:392–402.
4. Piñeiro Pérez R, Santiago García B, Mellado Peña MJ, Piñeiro Pérez R, Santiago García B, Mellado Peña MJ. Red Española de Estudio de Tuberculosis Pediátrica. A la vanguardia de Europa. Rev Esp Salud Publica. 2017:91.
5. Giehl C, Lange C, Duarte R, Bothamley G, Gerlach C, Cirillo DM, et al. TBNET – collaborative research on tuberculosis in Europe. Eur J Microbiol Immunol (Bp). 2012;2:264–74.
6. Ködmön C, van den Boom M, Zucs P, van der Werf MJ. Childhood multidrug-resistant tuberculosis in the European Union and European Economic Area: an analysis of tuberculosis surveillance data from 2007 to 2015. Euro Surveill. 2017;22, http://dx.doi.org/10.2807/1560-7917.ES.2017.22.47.17-00103.
7. Kendall EA. Tuberculosis in children: under-counted and under-treated. Lancet Glob Heal. 2017;5:e845–6.
8. World Health Organization. The End TB Strategy. Global strategy and targets for tuberculosis prevention, care and control after 2015; 2014.

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