EPIDEMIOLOGICAL SURVEILLANCE OF CONGENITAL SYPHILIS IN SPAIN, 2000–2010

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Abstract: The characteristics of 67 confirmed congenital syphilis cases reported to the surveillance system in Spain (2000–2010) were analyzed. The incidence rates ranged from 0.00 to 2.23 per 100,000 live births. Median age at diagnosis was 4 days. Hepatosplenomegaly was the most common clinical finding, although almost 60% of the cases were asymptomatic. Missed opportunities for congenital syphilis prevention through antenatal care were identified.

Key Words: congenital syphilis, antenatal care, sexually transmitted infections, prevention

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Congenital syphilis (CS) is a severe condition caused by mother-to-child transmission of the bacterium Treponema pallidum. Without treatment, syphilis during pregnancy can result in stillbirth, premature birth or neonatal death in 50–80% of cases. However, CS is preventable through antenatal screening of pregnant women and treatment of those infected, a strategy found to be highly cost-effective.

The World Health Organization estimates the number of annual cases worldwide to be between 728,000 and 1,528,000, with Africa and Central/South America the most affected regions. In the United States, recent data show an increase in the CS rate from 8.2 cases per 100,000 live births in 2005 to 10.1 in 2008.

In the European Union and the European Economic Area (EU/EEA), 101 cases of CS were notified in 23 countries in 2009, producing an overall rate of 3.5/100,000 live births, but not all countries belonging to this area consider CS to be a notifiable disease.

In an active search carried out from 1997 to 2008 in 2 independent data sources in the Netherlands, 1 of the EU/EEA countries where CS is not notifiable, between 18 and 36 CS cases, depending on the source, were identified; these findings suggest that the true burden of the disease in the EU/EEA is unknown.

In 2007, World Health Organization launched a global initiative for the elimination of CS. The specific goal of this initiative was to prevent mother-to-child transmission of T. pallidum, which requires improved access to antenatal care, well-structured clinical pathways and enhanced surveillance.

In Spain, CS has been a notifiable disease since 1997. This article aims to describe epidemiological and clinical features of CS cases reported from 2000 to 2010.
was not documented and 6 women were adequately screened and treated for syphilis. No statistical difference was observed in antenatal care by the mother’s place of birth.

**DISCUSSION**

This is the first study that analyzes epidemiological and clinical data on early CS cases reported to the surveillance system in Spain, providing information on the past 11 years. The findings are useful to know the magnitude of the problem and the characteristics of the cases and highlight missed opportunities for CS prevention through antenatal care in Spain.

This study had several limitations. First, stillbirths and neonatal deaths were not included, therefore the incidence could be underestimated; however, because the European case definition was used, a similar situation exists in other European countries. Second, the underreporting rate is unknown, although the system is implemented countrywide and to our knowledge selection bias due to underreporting is unlikely. Finally, there was an important proportion of missing information for some variables.

The incidence rates of CS for 2000–2010 in Spain were lower than the overall rates notified in the EU/EEA, which ranged from 1.7 to 4.1 per 100,000 live births in the same period. Compared with individual countries, the figures reported in this study are similar to those found in the United Kingdom and Italy and higher than those notified in Germany and Sweden in the same period, although the surveillance systems are different.

Previous findings from the United States and France have described an increase of CS parallel to a rise of syphilis rates among women. In Spain, nationwide surveillance data on syphilis showed an important upward trend in reported rates between 2000 and 2009 (from 1.8 to 5.4 cases per 100,000 population), but unfortunately, information on the cases’ sex is not currently collected; nevertheless, data provided by a sentinel surveillance system based on sexually transmitted infections clinics show that men who have sex with men are the group most commonly affected by syphilis.

The clinical manifestations and percentage of asymptomatic cases in our data were similar to those described in previous studies. The variety of clinical findings and the high proportion of asymptomatic CS cases make diagnosis difficult unless there is high diagnostic suspicion; this is particularly relevant when the mother’s syphilis status is unknown, as may occur when the children are adopted.

The delay or absence of antenatal care, inadequate or inconsistent treatment, and the acquisition of syphilis during pregnancy have all been described as factors related to CS. These situations occur not only in developing world settings but also in countries, such as Italy, France and the United Kingdom, where maternal syphilis screening is widely implemented.

In Spain, screening is provided free of charge to all pregnant women, including illegal migrants; antenatal care guidelines recommend universal screening in the first trimester and rescreening in the third trimester for women belonging to high risk groups. In a study carried out in 2000 in Spain, coverage of syphilis screening in public hospitals was found to be 95.8%, a figure similar to the 96.6% reported for the same setting in 2007 in the United Kingdom. However, our results show clear failures in access to and delivery of antenatal care; these findings have also been reported by other authors and warrant further research on coverage of and barriers to antenatal care in Spain.

Migrants and drug users usually experience problems in obtaining adequate health care. A study in France found that migrant mothers had difficulties accessing health care and adhering to medical recommendations. In our study, a considerable proportion of mothers were born outside Spain, but unfortunately information on the reasons for not receiving adequate antenatal care was lacking.

**FIGURE 1.** Incidence of congenital syphilis (number of cases and rate per 100,000 live births), by year of diagnosis in Spain, 2000–2010.
Regarding drug use, an overrepresentation of mothers with drug problems was noticed in our data; the same finding has been reported in another study in Spain, which points to the social vulnerability of this group.16

The study results are very useful to guide policy in relation to CS in Spain, and they have several public health implications: (1) it is necessary to improve the quality of data collected for the epidemiological surveillance of CS; (2) although data on antenatal care are not requested at a European level, this information is highly relevant to improve CS prevention at national level; (3) enhancement of doctors’ awareness of the persistence of maternal and CS in our setting is necessary to improve early diagnosis and treatment and (4) actions to eliminate barriers to antenatal care in marginalized groups should be implemented.

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DISSEMINATED HISTOPLASMOsis OF INFANCy IN ONE OF THE TWiNS

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Abstract: This report describes clinical manifestations of histoplasmosis in 6-month-old dizygotic twins, one of whom developed disseminated histoplasmosis of infancy while his sibling remained well, but developed serologic evidence of histoplasmosis. The report also documents histoplasma antigen concentrations in serum and urine before, during and after completing antifungal therapy.

Key Words: histoplasmosis, infancy, inoculum, histoplasma antigen

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Histoplasmosis results from inhalation of spores of the dimorphic fungus, Histoplasma capsulatum, and is estimated to cause 500,000 infections annually in endemic regions of the United States. Although most are subclinical and self-limited, life-threatening disseminated histoplasmosis may result from either exposure to a large fungal inoculum or in a host with impaired cellular immune function.1 A rare, life-threatening manifestation, termed disseminated histoplasmosis of infancy, occurs in otherwise normal infants. Signs and symptoms include fever, weight loss, hepatosplenomegaly, pneumonitis, pancytopenia and coagulopathy. Those who receive effective antifungal agents recover and have been found to be immunocompetent.2 Thus, based on both the absence of risk factors recognized to predispose to opportunistic infections and, following recovery, demonstrating no increased risk for acquiring opportunistic infections or malignancies, the entity has been attributed to “immaturity of the immune system.” Not often considered and difficult to assess has been the role played by the size of the inhaled fungal inoculum, a factor recognized to be proportionate to disease severity.2 Thus, we describe an immunocompetent 6-month-old boy with disseminated histoplasmosis whose twin sibling, although likely to have been exposed to the same fungal inoculum, remained well but demonstrated serologic evidence of acute, recent histoplasmosis. In addition, previously unreported in this entity are serum and urine histoplasma antigen concentrations at diagnosis, during and following antifungal therapy.

CASE REPORT

A 6-month-old boy, one of dizygotic twins, was referred for evaluation of fever lasting 1 month. The infants were born at term and were growing and developing normally. His sibling remained well. His mother reported no fever during the prior 3 days. He appeared energetic and happy, and no abnormalities were recognized. A blood count done several days earlier showed a hemoglobin concentration of 9.4 g/dL, white blood cells 7200 cells/mm3 with 26% neutrophils, 64% lymphocytes, 8% monocytes, 2% basophils and a platelet count of 96,000/mm.3 An abdominal ultrasound examination and a computerized tomography scan of the chest were normal. In the ensuing week, fever recurred and the blood count showed a hemoglobin concentration of 6.1 g/dL, white blood cells...