

CLINICAL AND EPIDEMIOLOGICAL ASPECTS OF CONGENITAL SYPHILIS CASES IN THE STATE OF CEARÁ, BRAZIL, BETWEEN THE PERIOD OF 2019 TO 2023

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Abstract: Introduction: Syphilis is a systemic and sexually transmitted infectious disease caused by infection with the Gram-negative bacterium *Treponema pallidum*. Despite the existence of effective and low-cost treatment, it is still a serious public health problem. It is a pathology with vertical transmission to the fetus during the gestation period of a mother with untreated or inadequately treated syphilis and, through blood transfusion. **Objective:** To identify the occurrence of cases of congenital syphilis reported in the state of Ceará, from 2019 to 2023. **Methodology:** The research deals with an epidemiological study, of cases of congenital syphilis reported to the Notifiable Diseases Information System (SINAN) occurred in the state of Ceará (CE), from 2019 to 2023. **Results and Discussion:** Between the years 2019 and 2023, 5827 cases of congenital syphilis were reported in the state of Ceará. Regarding the classification of congenital syphilis cases, 5425 cases (91.10%) were confirmed as recent congenital syphilis, 8 cases (0.13%) confirmed as late congenital syphilis, stillbirth/abortion due to syphilis were 217 cases (3, 72%) and 177 cases (3.03%) discarded cases. These data prove that the disease occurs mainly in children under one year of age, as they are a more vulnerable group for morbidity and mortality, as many infants in this age group have an immature immune system. **Conclusion:** This work confirms that congenital syphilis is a disease, prevalent in newborns, infants and preschool children and that it has a high rate of stillbirths/abortions during pregnancy in women in Ceará, therefore, it is important to have a more efficient prenatal care both in detecting the disease and in its treatment.

Keywords: Ceará. Epidemiology. Congenital syphilis. Pregnant. Brazil.

INTRODUCTION

Syphilis is a systemic and sexually transmitted infectious disease caused by infection with the Gram-negative bacterium *Treponema pallidum* (BRASIL, 2006). Despite the existence of effective and low-cost treatment, it is still a serious public health problem (BRASIL, 2006). It is a pathology with vertical transmission to the fetus during the gestation period of a mother with untreated or inadequately treated syphilis and, through blood transfusion (BRASIL, 2006). It is estimated that, in the world population, around twelve million new cases of syphilis occur annually and that at least half a million children are born with the congenital form of the disease, with congenital syphilis (CS) standing out for its be responsible for high rates of fetal and neonatal morbidity and mortality (SILVA et al, 2019). According to COSTA et al (2013), it is shown that of the various diseases that can be transmitted during the pregnancy-puerperal cycle, syphilis is the one with the highest transmission rates. Regarding the clinical classification of CS, we can state that it is divided into early congenital syphilis and late congenital syphilis, the first appearing until the 2nd year and the second appearing only after (BRASIL 2006).

OBJECTIVE

To identify the occurrence of cases of congenital syphilis reported in the state of Ceará, from 2019 to 2023, evaluating the clinical aspects of the disease and its epidemiology.

METHODOLOGY

The research deals with an epidemiological study of cases of congenital syphilis reported to the Notifiable Diseases Information System (SINAN) that occurred in the state of Ceará (CE), from 2019 to 2023. The data available in SINAN are in the public domain and available

online at DATASUS, using the Tabnet tool, it was possible to tabulate the data, without requiring approval from the Research Ethics Committee or local Scientific Committee.

RESULTS AND DISCUSSION

Between 2019 and 2023, 5827 cases of congenital syphilis were reported in the state of Ceará. Regarding the municipality in which patients were notified, the majority were reported in the municipality of Fortaleza (3679 cases), followed by Sobral (445 cases), Maracanaú (274 cases), Caucaia (252 cases) and Barbalha (147 cases). An important variable to be considered is that of the five cities mentioned, four of them are among the most populous cities in the state of Ceará, with the number of cases being a direct relationship with the number of inhabitants, as is the case of Fortaleza (1st), Caucaia (2nd), Maracanaú (4th) and Sobral (5th). The absolute population of the municipality of Fortaleza (capital of the state) in relation to the others is inconsistent, with the capital of Ceará having 2,428,678 inhabitants according to the latest demographic census (IBGE 2022), factors that contribute to a higher prevalence of cases of congenital syphilis. In the case of the municipality of Sobral, we must consider that its population is 203,023 inhabitants and that the municipality is also the center of a Health Region (RS) that serves around 23 surrounding municipalities, which corresponds to a population of 658,512 inhabitants (CEARÁ, 2023). Comparing the numbers from Sobral, we have the cases reported with domiciled patients (181 cases) and the number of cases reported in the municipality (445 cases), we observe a difference of 264 cases, which would be patients from other cities in RS, the which are referred from other municipalities to hospitals in the municipality of Sobral. The city of Barbalha is the fifth city with the highest number of cases recorded, even though it is

only the 17th most populous city in the state with 72,700 inhabitants, and of the 147 cases reported by the municipality, only 85 cases are domiciled in the city, thus 62 cases from surrounding municipalities seeking care in the Barbalha hospital network. Regarding the classification of congenital syphilis cases, 5425 cases (91.10%) were confirmed as recent congenital syphilis, 8 cases (0.13%) confirmed as late congenital syphilis, stillbirth/abortion due to syphilis were 217 cases (3, 72%) and 177 cases (3.03%) discarded cases. Therefore, it is noteworthy that there is a high rate of children who develop congenital syphilis in their first two years of life in the state of Ceará, with the number of stillbirths/abortions caused by syphilis being higher even than that of children with late congenital syphilis. Corroborating the data above, the literature states that in the presence of recent untreated infection, it is estimated that 25% of pregnancies end in late miscarriage or fetal death, 11% in neonatal death of full-term newborns, 13% in childbirth premature or low birth weight and 20% showing clinical signs of congenital syphilis. With regard to prenatal consultation follow-up, 5014 cases (86.04%) had follow-up; while those that were not followed up were 624 cases (10.70%) and Ign/white were 189 cases (3.24%). This distribution brings us a worrying fact, because even though the majority of pregnant women in Ceará have prenatal consultations, a large percentage of them developed syphilis during their pregnancy, in addition, the failure to fill out the notification forms is notable, as 189 cases (3.24%) were reported as ignored/blank, leaving them uncertain as to whether or not to carry out prenatal consultations. Regarding the age group of affected patients, there is a greater occurrence in infants (up to 6 days of age), with 5697 cases, corresponding to 97.76% of the total; followed by individuals aged between (7 and 27 days), who presented 80

cases (1.37%) of the total, infants aged (28 days to <1 year) corresponded to 38 cases or almost (0.65%), infants from 1 year (12 to 23 months) there were 5 cases or (0.08%), between 2 and 4 years there were 01 case (0.01%) and between 5 and 12 years there were 6 cases representing (0.10%) of the total cases. These data prove that the disease occurs mainly in children under one year of age, as they are a more vulnerable group for morbidity and mortality, as many infants in this age group have an immature immune system. According to Domingues et al (2021), the treatment of congenital syphilis in the neonatal period is carried out with benzylpenicillin (potassium/crystalline, procaine or benzathine), depending on maternal treatment during pregnancy or the non-treponemal test (TNT) titration of the newborn. -born compared to maternal and clinical and laboratory examinations of the child.

CONCLUSION

This work confirms that congenital syphilis is a disease, prevalent in newborns, infants and preschool children and that it has a high rate of stillbirths/abortions during pregnancy in women in Ceará, therefore, it is important to have a pre-Christmas more efficient both in detecting the disease and in its treatment. Therefore, it is important to carry out treponemal and non-treponemal tests, as this screening is part of the prenatal examination and must be carried out in the 1st and 3rd trimester of pregnancy, during hospital admission for childbirth or miscarriage. Carrying out health education actions must aim to inform the population mainly about ways to prevent and control the disease.

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