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CASE REPORT

CONGENITAL TOXOPLASMOSIS IN DIZYGOTIC TWINS, PARANÁ, BRAZIL

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SUMMARY

This is the first report of congenital toxoplasmosis in dizygotic twins in Brazil. We emphasize the need for early diagnosis of the mother and follow-up of children with suspected or confirmed infection from birth to adolescence, in order to avoid the hazard and damage from congenital toxoplasmosis.

KEYWORDS: Congenital toxoplasmosis; Twins; Paraná; Brazil.

INTRODUCTION

In twin pregnancy, the clinical course of congenital toxoplasmosis is concordant for monozygotic twins and is generally discordant between dizygotic ones, where one twin is symptomatic and the other has a subclinical infection[5]. The severe clinical pattern, with delayed neuropsychomotor development, microcephaly, retinochoroiditis and cerebral calcifications, can occur in less than 10% of patients with congenital toxoplasmosis[6]. The electronic databanks PubMed, Scielo and Lilacs revealed only 23 references from 1950 to the present date about congenital toxoplasmosis in twins, mainly in Europe. This case report describes, for the first time in Brazil, a case of congenital toxoplasmosis in dizygotic twins, emphasizing the necessity for systematic assessment of congenital toxoplasmosis in newborns.

CASE REPORT

A 20-year-old woman, pregnant for the first time, initiated prenatal care at the Health Public Service in Flórida, a municipality located in the northeastern part of the State of Paraná, at six weeks' gestation. At 12 weeks of pregnancy the following routine prenatal diagnostic tests were performed: VDRL (nonreactive), HIV (nonreactive), toxoplasmosis (nonreactive: IgM index 0.109 and IgG 0.1 IU/mL), partial urine and hemogram with normal results. At 23 weeks of pregnancy, an ultrasonograph revealed a topic, dichorionic and diamniotic twin pregnancy. In all, seven prenatal consultations were done, without incident. At 31 weeks of pregnancy the patient developed symptoms of premature amniorrhexis, and was sent to the Maringá Regional University Hospital (MRUH), in full labor.

At birth, the first twin, JV, had an Apgar score of 9/10/10, weight 1935 g, height 44 cm, head circumference 31 cm, thoracic perimeter 28 cm, good general state, good suction and normal reflexes. The second twin, JH, was born normally, with an Apgar score of 9/10/10, weight 2200 g, height 42.5 cm, head circumference 31 cm and thoracic perimeter 30 cm. However, during follow up he was wailing, in a poor general state, hypoactive, icteric, with poor suction, a depressed fontanel and lack of the Moro reflex. Both newborns remained in an incubator in the neonatal ICU of the MRUH until the 7th day of life, when they were discharged.

During the neonatal period, the mother observed that JH always appeared more lethargic than JV, and that at 20 days his eyelid did not open correctly. When consulted, the ophthalmologist requested serologic tests for toxoplasmosis (anti-*Toxoplasma gondii* ELISA-MEIA), after examining the retina. The results, available two months after the request, presented IgM index of 4.590 and IgG > 300 IU/mL and confirmed the diagnosis of congenital toxoplasmosis. On being referred to the MRUH Infectious Diseases Service, JH showed lethargy, sudoresis while nursing, palpebral ptosis and delayed neuropsychomotor development. Subsequently serologic tests (anti-*T. gondii* ELISA-MEIA) were requested for the mother and her twins; the mother was reactive for IgG (> 300 IU/mL) and the children reactive for IgM (indices above 0.720). Both children received antimicrobial treatment with sulfadiazine, pyrimethamine and leucovorin from five to 15 months. A fundoscopy of JH's right eye revealed a whitish macular lesion typical of retinochoroiditis; the left eye showed no changes. The retinochoroiditis lesions had not enlarged by the end of the treatment. JH also had microcephaly and, in the computerized

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tomography of the cranium, the presence of cerebral calcifications confirmed the diagnosis of Sabin's Tetrad.

JV showed appropriate neuropsychomotor development for his age, and was attentive to verbal stimuli, active, with good muscle tone and reflexes. Although he showed no symptoms of toxoplasmosis, he underwent the same treatment for 15 months. However, at the age of seven years, JV was subjected to an ophthalmic test at school, which revealed impaired vision in his left eye and visual cloudiness. An ophthalmologic examination revealed a macular lesion of retino-choroiditis in the left eye and normal vision in the right one.

DISCUSSION

The occurrence of congenital toxoplasmosis in dizygotic twins with discordant clinical signs has been reported by other investigators[4,5,7]. PEYRON *et al.*[5] observed 15 pairs of dizygotic twins, where one of each pair presented subclinical toxoplasmosis, and the other had the disease (13 cases) or a lethal infection (two cases). This variability suggests that the placenta has an important role in the control of infection by *T. gondii*, one fetus being more affected than the other[1].

This case report indicates the difficulty of the Brazilian Public Health Services in identifying primo-infection by *T. gondii* during pregnancy, and the management of infants suspected of being congenitally infected. The public-health service was slow in following up the pregnant woman, in collecting biological material for the children's diagnosis, in providing the results and in beginning their treatment.

Retinochoroiditis is the most frequent long-term sequel in congenital toxoplasmosis[2] and the risk of new lesions persists for many years[3]. The reported case reinforces the necessity for early diagnosis, and effective follow-up of pregnant women and their children from birth to adolescence, in order to reduce the hazard and damage of congenital toxoplasmosis. We highlight the need for physicians to put into practice the state protocols for follow-up and treatment of pregnant women with toxoplasmosis and their exposed children. The diagnostic methods prescribed in the state protocols must be available in the public-health laboratories.

RESUMO

Toxoplasmose congênita em gêmeos dizigóticos, Paraná, Brasil

Este é o primeiro relato de caso de toxoplasmose congênita em gêmeos dizigóticos no Brasil. Os autores enfatizam a necessidade de diagnóstico precoce das gestantes e do acompanhamento de crianças do nascimento à adolescência, a fim de evitar riscos e danos decorrentes da infecção congênita.

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