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CASE REPORT

Coexistence hepatitis viral sharp type to and typhoid fever in patient pediatric

Coexistencia hepatitis viral aguda tipo a y fiebre tifoidea en paciente pediátrico

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ABSTRACT

Introduction: Typhoid fever is an acute, systemic, severe febrile illness caused by Gram-negative bacteria of the genus Salmonella enterica, serotypes typhi and paratyphi, transmitted fecal-orally. Hepatitis A (HA) is a disease of worldwide distribution, with a higher incidence in geographic areas with poor hygienic and sanitary conditions. Transmission is person-to-person via the fecal-oral route.
Case report: a 10-year-old female patient of rural origin with poor hygiene habits was admitted to the "José Luis Miranda" Pediatric Hospital due to a general illness, diffuse abdominal pain most intense in the right upper quadrant, fever of 5 days duration, frequent, voluminous, liquid diarrhea, and physical examination revealed pale skin, mild jaundice, and hepatomegaly. The results of a stool culture were received, which isolated Salmonella Typhi and an abdominal ultrasound revealed hepatomegaly, mild hepatic steatosis, and diffuse thickening of the gallbladder wall, consistent with an inflammatory process of the liver parenchyma. Serological markers for hepatitis were positive, including IgM for hepatitis A.
Conclusions: Typhoid fever and acute viral hepatitis type A are diseases associated with poverty, poor personal hygiene, and the consumption of contaminated food and water. In the case presented, diagnostic confirmation of the coexistence of both diseases was achieved through clinical epidemiological investigation and laboratory studies. The coexistence of typhoid fever and viral hepatitis type A is not a common occurrence in medical practice, and is confirmed by laboratory tests.

Keywords: Typhoid Fever; Hepatitis; Icterus; Hepatomegaly.

RESUMEN

Introducción: la fiebre tifoidea es una enfermedad febril aguda, sistémica, grave, causada por bacterias Gram negativas; del género Salmonela entérica serotipo *typhi* y *paratyphi*, trasmisión fecal oral. La hepatitis A (HA) es una enfermedad de distribución mundial, cuya incidencia es mayor en áreas geográficas con deficientes condiciones higiénico sanitarias. La transmisión es persona a persona por vía fecal oral.
Reporte del caso: paciente femenina de 10 años, procedencia rural, deficientes hábitos de higiene, ingresa en Hospital Pediátrico "José Luis Miranda" por toma del estado general, dolor abdominal difuso más intenso en hipocondrio derecho, fiebre de 5 días de evolución, diarreas liquidas voluminosas y frecuentes, al examen físico: pálida, con íctero ligero y hepatomegalia. Se recibe resultado del coprocultivo donde se aísla Salmonella Tiphy y ultrasonido abdominal con hepatomegalia, esteatosis hepática leve, engrosamiento difuso de la pared vesicular, compatible con un proceso inflamatorio del parénquima hepático. Marcadores serológicos de hepatitis positivos, IgM para Hepatitis A.

Conclusiones: la fiebre tifoidea y la hepatitis viral aguda tipo A son enfermedades relacionadas con la pobreza, la falta de higiene personal y el consumo de agua y alimentos contaminados. En el caso presentado la confirmación diagnóstica de la coexistencia de ambas enfermedades se realiza por la investigación clínica epidemiológica y estudios de laboratorio. La coexistencia fiebre tifoidea y hepatitis viral tipo A no es un hecho frecuente en la práctica médica, que se confirma por exámenes de laboratorio.

Palabras clave: Fiebre Tifoidea; Hepatitis; Íctero; Hepatomegalia.

INTRODUCTION

Typhoid fever is an acute, systemic, severe, febrile illness caused by Gram-negative bacteria of the genus Salmonella enterica serotype Typhi and paratyphi, of oral fecal transmission, the only host of salmonella is humans, whose transmissibility is through convalescent patients and chronic healthy carriers.[1,2]

The disease is a global health problem that most frequently affects poorer continents such as Asia, Africa, and Latin America, where it is endemic. It is prevalent in populations with poor socio-economic conditions where the drinking water supply is deficient.[1,2]

According to the Bulletin of the World Health Organisation (WHO), there has been an increase from 21,6 million to 26,9 million cases of typhoid fever, with more than 200000 deaths per year. The Latin American region has an average incidence of typhoid fever of 10 to 20 cases per 100000 inhabitants.[3,4,5]

The disease's incubation period can vary from 2 to 3 weeks, and the clinical picture is characterized by continuous fever, intense headache, malaise, anorexia, myalgia, chills, abdominal pain, hepatosplenomegaly and leukopenia, relative bradycardia, and typhoid roseola. The prolonged and severe clinical course often leads to complications such as gastrointestinal tract bleeding, intestinal perforation, myocarditis, encephalopathy, and disseminated intravascular coagulation.[1,2,6]

Headache is a non-specific symptom of the disease occurring in 59-90 % of patients. In the disease's early phase (first week), dry cough has been reported in 2-86 %. Myalgia is reported in 88,6 % of cases, and anorexia in 39-91 %.[2,3]

Diarrhoea is more frequent in children and immunocompromised patients (37-66 %) and may be accompanied by abdominal pain (19-39 %), nausea, and vomiting (23-54 %). Enteric bacteria such as S. typhi cause varying degrees of hepato-biliary system involvement (1-26 %). Patients may present with hepatitis, with fever, jaundice, and hepatomegaly.[2,3]

In case series, typhoid hepatitis occurs in an average of 5,1 % of patients (1 to 26 %).[4]

However, liver function tests (LFTs) may show an increase: alanine aminotransferase ALT, with a mean of 53 IU/L (32,5-93), and aspartate aminotransferase (AST), with a mean of 57 IU/L.[4]

The most common transmission of typhoid fever is through water and food contaminated with feces or urine from a sick person or carrier. In some regions of the world, seafood from areas with contaminated water, raw fruits and vegetables fertilized with feces, contaminated milk and milk products (usually from the hands of carriers), and undiagnosed ill persons are essential vehicles. A high incidence occurs when water supplied to the population is contaminated by fecal matter, as in many underdeveloped countries.[7]

Hepatitis has various causes, both infectious and non-infectious. Among the infectious causes, viral etiology accounts for at least half of all hepatitis worldwide. Different viruses with primary tropism for liver tissue have been described. These microorganisms have been named successively with the letters of the alphabet: A, B, C, D, E, and G.[9,10,11,12]

Hepatitis A (HA) is a disease of worldwide distribution, with a higher incidence in geographic areas with poor sanitary and hygienic conditions. Transmission is person-to-person via the oral-fecal route. Children play an essential role in its spread, as it is often asymptomatic or presents non-specific symptoms that make hepatitis A virus (HAV) infection go unnoticed. Most infections occur in close contact with cohabitants and family members. Other forms of transmission are waterborne and foodborne. The incubation period is 15 to 50 days, with an average of 28 days, depending on the inoculum.[13,14]

Diagnosis is clinical and is confirmed by microbiological tests. Tests available for diagnosing HAV infection are: Anti-HAV-specific IgM (detectable 5 to 10 days after exposure to the virus); these are the first antibodies to appear and persist for a prolonged time 3 to 6 months, antigen detection or nucleic acid detection.[13,14]

In children, there are several clinical forms of presentation: anicteric or subclinical, cholestatic, relapsing, subfulminant, or fulminant. Infection comprises three periods: incubation, stage, and convalescence. The contagious period ranges from incubation to 10 to 15 days after the onset of jaundice.[15]

CASE REPORT

Female patient, 10 years old, white skin color, from rural areas, student, previous history of good health.

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Poor family that consumes untreated water, uses latrine and has poor hygiene habits, with the history that four members of her family have presented similar symptoms. She was admitted to the "José Luis Miranda" Pediatric Hospital from the on-call service, due to clinical symptoms characterized by general malaise, diffuse abdominal pain more intense in the right hypochondrium, fever of 5 days of evolution, quantified by thermometer, voluminous and frequent liquid diarrhea.

Physical examination revealed cutaneous-mucosal pallor, with slight icterus and hepatomegaly (the liver exceeded the right costal rim by about 5 cm, with blunt and painful edges).

Laboratory tests

On admission, laboratory tests were performed with the following results: complete blood count: Hb 12,1g/dL Leucocytes: 4 x103 /µL, Lymph: 35,9 %, Mid: 10,0 %, Great: 54,1 %. Platelets 265 x103/µL. Leukopenia with normal differential formula. The urine smear showed no signs of urinary tract infection. Blood chemistry showed TGO 263,4 U/L and TGP 597,75 U/L, both transaminases elevated. Total bilirubin was 2,08 mg/dl, indirect bilirubin 0,69 mg/dl, and direct bilirubin 1,39 mg/dl. A stool culture was taken, and a coagulogram was performed: prothrombin time was 17,5 seconds, partial thromboplastin time was 45,2 seconds, both slightly prolonged.

The stool culture results were received in the following days. They isolated Salmonella Tiphy, which is sensitive to Amoxicillin with clavulanic acid, Ampicillin-Sulbactan, Cefepime, Ceftriaxone, Ciprofloxacin, Gentamicin, and Imipenen; resistant to Amikacin, Ampicillin and Chloramphenicol, Tetracycline, and Thymetropinsulfa. No blood culture was performed.

Imaging studies

Due to the persistence of hepatomegaly, the liver exceeded about 5 cm on the right costal ridge, with blunt and painful edges, as well as elevated transaminases and bilirubin, although the latter discreetly and prolongedly. It was decided to perform an abdominal ultrasound with the following conclusions: hepatomegaly, mild hepatic steatosis, and diffuse thickening of the gallbladder wall. Radiology reports an inflammatory process of the hepatic parenchyma. Serological markers for hepatitis are indicated, which was positive in the case of IgM for Hepatitis A, which was confirmed.

The patient was admitted to the pediatrics department for 10 days and progressed satisfactorily. Ten days after discharge, he was followed up by outpatients with the following results: Complete blood count: Hb 12,1g/dL Leukocytes: 7,3 x103 /µL, Lymph: 45 %, Mid: 10,0 %, Great: 49 %. Platelets 360 x103/µL. Prothrombin time 16,2 sec, Partial thromboplastin time 39,2 sec. TGP 87,78 U/L, TGO 55,49 U/L. Improvement of laboratory parameters was observed.

Treatment included intravenous fluids, antiemetics, rest, a low-fat diet, and IV antibiotics such as Ceftriaxone for 10 days.

Typhoid fever and acute viral hepatitis A were established as final diagnosis. The patient evolved favorably, without sequelae.

DISCUSSION

Typhoid fever and acute viral hepatitis type A are diseases related to poverty, lack of personal hygiene, and consuming contaminated food and water (milk, oysters, cream, ice cream, and raw vegetables watered with black water).

In the case presented, clinical epidemiological investigation made the diagnosis of Salmonella Tiphy infection and the presence of viral hepatitis A, which was confirmed by laboratory studies such as stool culture and serological markers for hepatitis A. A blood culture was not possible in the first week of the disease, when the highest sensitivity of the test was recorded.

Although hepatomegaly, elevated transaminases, and bilirubin levels are described in the clinical picture of typhoid fever, Salmonella typhoid hepatitis is also described, which is rare and differs from acute-type viral hepatitis.

Although these two diseases are infrequently encountered in clinical practice, many symptoms and signs of both diseases coincide in this patient. The case fulfills the criteria of a confirmed case of hepatitis A and is dominated by symptoms related to hepatic intake. At the same time, we do not think that this is a chronic carrier of typhoid fever because of the girl's young age and because there is no history of symptoms suggestive of typhoid fever.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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