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Diagnosis at first sight

Fever and cervical mass in a neonate☆

Síndrome febril y tumoración cervical en un neonato

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Case report

Newborn aged 20 days came into the paediatric emergency department with a fever of up to 38.1 ≡C with a duration of 45 min. The parents also reported irritability for the last 2 h. There were no other symptoms and no reports of COVID-19 infections within the family group. The newborn had a history of self-limiting fever one week prior to the current symptoms. A physical examination performed while in the emergency department was normal.

Personal history: pregnancy with all the usual antenatal checks, no complications. A urine culture during the second trimester was positive for *Streptococcus agalactiae*, group B streptococcus (GBS), with intrapartum antibiotic prophylaxis given per protocol. Spontaneous rupture of membranes, with clear fluid, delivery 2 h after waters breaking. Normal vaginal delivery at gestational age of 39 + 3 weeks, all newborn measurements normal at birth. Admitted to Neonatology Department at age of 40 h due to neonatal jaundice due to rhesus isoimmunisation for which phototherapy was given for 3 days. Breastfed only from birth with good weight and growth. Mother has no symptoms suggestive of mastitis.

Clinical course

As a result of seeing a fever without an apparent source in a newborn, the following complementary tests were ordered: blood tests, urinalysis, lumbar puncture, PCR testing of respiratory viruses, blood culture, urine culture and cerebrospinal fluid (CSF) culture. The blood tests showed mild leukocytosis (18.4 thou/mcl) and neutrophilia for the baby's age (14.6 thou/mcl), with normal red blood cell series and platelet count. Clinical chemistry, kidney function and liver function normal. C-reactive protein 0.82 mg/dl and procalcitonin 12.7 ng/ml. Urinalysis and CSF cytochemistry normal. On suspecting late-onset neonatal sepsis, the newborn was admitted for intravenous empirical antibiotic therapy with ampicillin and cefotaxime.

Twenty-four hours after admission, the patient had no fever but on physical examination a right laterocervical mass associated with tender cutaneous inflammatory changes was detected (Fig. 1A). A cervical ultrasound showed right laterocervical lymphadenopathies with surrounding inflammatory-infectious changes with no clear collections (Fig. 1B). Forty-eight hours after admission, the Microbiology Department reported the growth of *Streptococcus agalactiae* that was sensitive to ampicillin in the blood culture and therefore the drug regimen was changed to ampicillin. The CSF culture was negative for bacteria and the CSF PCR panel was also negative for bacteria and viruses. The patient completed 10 days of intravenous antibiotic therapy with a favourable outcome. 72-h follow-up blood culture was sterile.

Closing remarks

GBS is the most common cause of both early-onset (occurring within the first 6 days of life) and late-onset (occurring after 7 days of life) bacterial neonatal sepsis.[1,2] Although preventive measures such as screening for GBS colonisation during pregnancy and intrapartum antibiotic prophylaxis have managed to greatly reduce early-onset neonatal infection, this has not been the case with late-onset infections. The pathogenic mechanism and also the mode of transmission of late-onset neonatal infection are unknown, although transmission is thought to be horizontal from colonised contacts (mother, relatives, community).[1]

Initial symptoms tend to be fever, irritability and/or poor feeding.[2] The infection is bacteraemic, although initial manifestations may be local, with osteoarticular symptoms or adenitis-cellulitis. Up to one-third of cases have meningeal involvement.[3] Although adenitis-cellulitis is a well-known manifestation, it is uncommon. In an 11-year case study, 4% of cases had adenitis-cellulitis,[4] although, in a 7-year review of late-onset GBS infections at a tertiary hospital in Madrid, 24 newborns were identified, with 5 (20.8%) having adenitis-cellulitis syndrome.[2]

The prognosis of the infection, if there is no central nervous system involvement, is generally good, with a favourable response to intravenous antibiotic therapy.[3,5] On suspecting late-onset neonatal sepsis, empirical broad-spectrum antibiotic therapy

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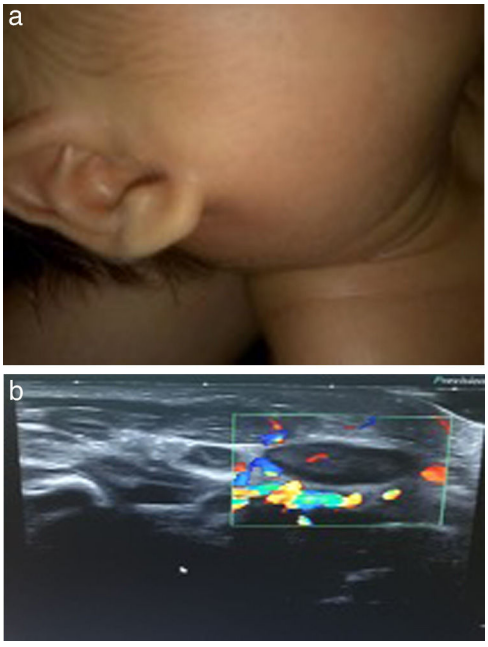

Figure 1. A. Right laterocervical mass. B. Doppler ultrasound: multiple right laterocervical lymphadenopathy, significant in number, with normal echostructure and size within the insignificant range, with inflammatory characteristics.

is recommended pending culture results. Likewise, systemic and central nervous system involvement must be ruled out even if the presentation is localised.[3]

Conflicts of interest

The authors declare that they have no conflicts of interest.

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