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<https://doi.org/10.1016/j.eimc.2021.06.010>

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Acute necrotizing chorioamnionitis caused by *Actinomyces neuii*



Corioamnionitis aguda necrotizante causada por *Actinomyces neuii*

We present the case of a 41-year-old female patient who was admitted to the hospital at week 25 of her pregnancy for uterine dynamics and foetal lung maturity control. After five days of hospitalization, she began treatment with atosiban (oxytocin antagonist) due to increased uterine dynamics. Previous significant medical history presented in vitro fertilisation and gestational diabetes with insulin treatment. A cerclage was placed 22.3 weeks into the pregnancy due to prolonged cervical length.

During the hospitalization (week 27.5), the patient began experiencing an increased clear vaginal discharge without uterine dynamics resulting in a premature rupture of membranes. Laboratory blood test revealed an increase in C-reactive protein of 5.47 mg/dL (0–0.5 mg/dL). Based on the findings, a presumptive diagnosis of chorioamnionitis was made leading to amniocentesis for study of amniotic fluid.

The results of the amniotic fluid study were as follows: glucose <2 mg/dL, proteins 4 g/L and a count of 1720 nucleated cells/mm³ with a predominance of polymorphonuclear cells. The Gram stain showed unbranched Gram-positive bacilli (Fig. 1).

Based on the laboratory data, the patient was diagnosed with chorioamnionitis starting with antibiotic dosage (intravenous piperacillin-tazobactam and oral clarithromycin). The obstetrician decided to induce labour and stopped the atosiban bolus. A baby weighing 1200 g was born by spontaneous delivery at week 28.

The anatomical pathology study of the placenta showed acute necrotizing chorioamnionitis but the patient did not exhibit signs of fever or sepsis after delivery, and the antibiotic treatment was concluded 24 h postpartum. Due to the premature birth, the newborn was admitted to paediatric intensive care and was treated with ampicillin and gentamicin. Antibiotic treatment concluded after 5 days without further signs of bacterial infection.

Microbiological studies used amniotic fluid and two placenta samples. All the samples were cultured in selective (MacConkey and Columbia CNA agar) and enrichment media (chocolate agar, blood agar, and thioglycolate broth) in aerobic conditions. We also used Anaerobe Schaedler and Schaedler neomycin vancomycin agar under anaerobic conditions (bioMérieux®). Two types of colonies were isolated in the amniotic fluid culture. Some colonies had a circular and smooth white colour and were identified as *Actinomyces neuii* by mass spectrometry (log score: +2.06, MALDI-TOF MS, Microflex®, Bruker). The other colonies were smaller and darker and were identified as *Streptococcus anginosus* by MALDI-TOF MS (log score: +2.16) as well. In both placenta samples, only *Actinomyces neuii* was isolated and identified (both log score: +2.16) (Fig. 1).

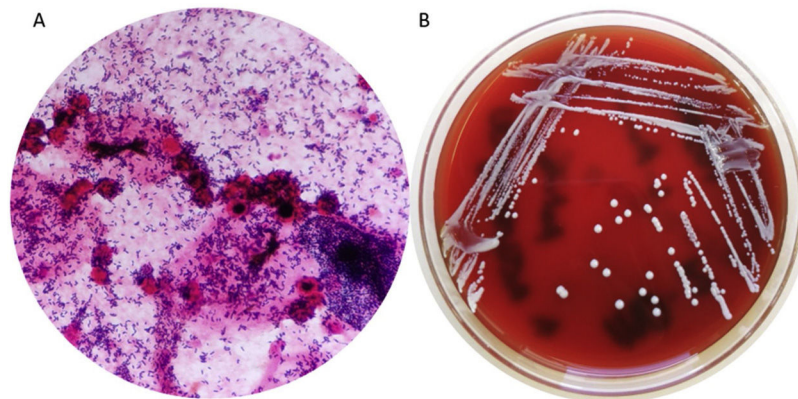


Fig. 1. Direct Gram stain from the amniotic fluid revealed unbranched gram-positive bacilli (A). White colonies of *Actinomyces neuii* isolated on blood agar after 48 h of incubation (B).

Susceptibility testing used the minimum inhibitory concentration (MIC) microdilution method (Pos MICroSTREP plus 6 panel, MicroScan WalkAway, Beckman Coulter). The sensitivity analysis showed that both strains were susceptible to all antibiotics tested: ampicillin *A. neuui* (≤ 0.06 mg/L)/*S. anginosus* (0.12 mg/L), cefotaxime (≤ 0.25 mg/L), meropenem (≤ 0.25 mg/L), levofloxacin *A. neuui* (1 mg/L)/*S. anginosus* (≤ 0.5 mg/L), clindamycin (≤ 0.06 mg/L), clarithromycin (≤ 0.12 mg/L), vancomycin (0.5 mg/L), and daptomycin (≤ 0.25 mg/L).

Streptococcus anginosus was not seen in the Gram stain, and it grew at low CFU counts in the inoculated amniotic fluid samples. The placenta samples did not reveal its presence; thus, it was considered to be a contaminant of the sample extraction.

Actinomyces neuui is a facultative anaerobic Gram-positive and rod-shaped bacteria. It has an unbranched morphology in contrast to other species of *Actinomyces*.^{1–3} *Actinomyces* species are considered normal flora of the oral cavity, gastrointestinal tract, and female genital tract; they rarely cause disease in humans.^{3–8} Nevertheless, they can cause chronic and slowly progressive infections including abscess formation in skin and soft tissues.^{4,6,9} *Actinomyces neuui* is a lesser-known species first described in 1994 by Funke et al.² It does not cause typical actinomycosis. The infections are related to abscesses, skin lesions, and infections of the genitourinary tract and mostly associated with the use of intrauterine contraceptive devices (IUD).^{1,4,7–10} Rare cases of pericarditis, osteomyelitis, breast infections, ophthalmic infections, prostatitis, and bacteraemia have also been previously reported.^{1,3,5–8}

Actinomyces neuui has also been involved in causing premature labour, chorioamnionitis, and neonatal sepsis associated with a previous resolution of a vaginal device (IUD or vaginal cerclage).^{1,4–10}

In our patient, chorioamnionitis was suspected to be related to the cerclage placement at week 22 of pregnancy. Other authors reported similar conclusions of *Actinomyces neuui* infections associated with the use of this device.^{1,8} Only two cases reported the presence of *Actinomyces neuui* in amniotic fluid.^{5,10}

This case demonstrates the need to consider *Actinomyces* infection in patients who carried a vaginal device. Amniotic fluid should be examined in patients with suspected chorioamnionitis for an early diagnosis to avoid further complications to the mother and the new-born.

Conflict of interest

The authors declare no conflict of interests.

Tiroiditis subaguda después de la vacuna anti-SARS-CoV-2 (Ad5-nCoV)



Subacute thyroiditis after anti-SARS-CoV-2 (Ad5-nCoV) vaccine

La tiroiditis subaguda (TSA) es una enfermedad inflamatoria autolimitada de la tiroides, una causa poco común de tirotoxicosis y asociada a infecciones de virus respiratorios en personas genéticamente predispuestas, virus como: virus de influenza, adenovirus, coxsackie, virus del sarampión, virus Epstein-Barr y otros¹. Durante la actual pandemia del SARS-CoV-2 se han observado trastornos tiroideos relacionados con la infección de este virus, y entre estos trastornos destacan los reporte de casos de TSA^{1,2}. Las nuevas vacunas anti SARS-CoV-2 que se encuentran en uso han tenido también como efectos adversos el desencadenamiento de TSA y

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<https://doi.org/10.1016/j.eimc.2021.06.017>

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enfermedad de Graves^{3–5}. Estas alteraciones tiroideas pueden ser independientes del mecanismo de acción de la vacunación contra el SARS-CoV-2 (se han reportado casos en vacunas basadas en ARNm, así como vacunas contra el SARS-CoV-2 inactivado y vacunas basadas en vectores)^{3–6}. Presento aquí un caso diagnosticado de TSA después de recibir la vacuna unidosos Ad5-nCoV de Cansino Biologics.

Una mujer de 53 años de edad sin antecedentes o enfermedades relacionadas con el padecimiento actual recibió la vacuna Ad5-nCoV de Cansino Biologics. A las 24 h de recibirla manifestó malestar general, astenia, mialgias, artralgias y febrícula. A los 15 días desarrolló dolor en la base del cuello, el cual fue creciente de intensidad con irradiación a mandíbula y oreja del lado derecho. En su evaluación inicial se encontró taquicardia y temblor distal,