*M. atlantae* is a short, immobile, Gram-negative bacillus that grows in standard culture media. It is catalase- and oxidase-positive, cannot acidify sugar, is negative for nitrate reduction and assimilates acetate and nitrate. It is alkaline phosphatase-positive and pyrrolidone carboxyl peptidase-positive.[2] It is underdiagnosed because it is difficult to isolate using classic methods and due to its sensitivity to routine antibiotics.

Despite continuous advances in microorganism identification using classic phenotyping techniques, such as the API® HK method (BioMérieux, Marci L' Étoile, France), or by automated methods, the identification of certain species like *M. atlantae* continues to pose a challenge both due to difficulties with the culture as well as the excessively long identification time.[4] For these reasons, and to prevent diagnostic delays, new rapid-detection methods are being developed, such as MALDI-TOF mass spectrometry.[5]

The first reference to this method of bacterial identification dates back to 1996 and was performed by Holland et al.[6] and Krishnamurthy et al.[7]. As well as being an easy and cost-effective method, it is also the quickest method to identify bacteria in blood cultures. Its efficacy varies from 43% to 94% depending on the pathogen.

By analysing proteins, particularly ribosomal proteins, this technology can identify microorganisms from colonies or directly from samples by creating a mass spectrum (that is specific to each species). It can identify both the genus and species of microorganism depending on the reliability score, the limits of which are set by the manufacturer (<1.7 not reliable for genus or species, 1.7–2 reliable for genus, not for species, >2 very reliable for both genus and species).[8]

Its high cost and the need to produce an antibiogram using classic methods constitute its main limitations.

To address these limitations, new antibacterial resistance rapid-detection techniques, such as detection of beta-lactam antibiotics and methicillin-resistant *Staphylococcus aureus* strains by MALDI-TOF, are being developed.[9]

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## Conflicts of interest

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## Chorioamnionitis and neonatal septicaemia due to *Eikenella corrodens*☆

## *Corioamnionitis y sepsis neonatal causada por* Eikenella corrodens

*Eikenella corrodens (E. corrodens)* is a slow-growing, Gram-negative, facultative anaerobic coccobacillus commonly found in the flora of the oral cavity, the upper respiratory tract and the digestive tract. It most often causes head, neck and intra-abdominal infections, as well as endocarditis and human bite infections.[1] However, there are very few cases of obstetric and gynaecological infections to be found in the literature.

We present a case of chorioamnionitis and neonatal sepsis caused by *E. corrodens*.

A 25-year-old woman presented with a dichorionic diamniotic twin pregnancy at 24+3 weeks and was admitted for cervical effacement without having gone into labour. The patient had no relevant medical history and the prenatal screening was normal. On the tenth day of admission, and after premature rupture of membranes, the patient went into spontaneous labour, requiring a Caesarian section as one of the twins was lying transverse. Given that chorioamnionitis was suspected, a placenta sample was sent for microbiological culture and histological examination.

The newborn (800 g) presented clinical and biochemical signs of infection. The blood count revealed 4000 leukocytes/μl, (9% segmented, 72% lymphocytes and 15% monocytes) and 112,000 platelets/μl. C-reactive protein was 5.3 mg/dl. A bottle of blood culture was extracted and empirical antibiotic treatment with ampicillin (50 mg/kg/dose every 12 h) and tobramycin (5 mg/kg/dose every 48 h) was established.

The histological examination of the placenta revealed active sites of chorioamnionitis, and a Gram-negative bacillus was isolated from the microbiological culture after 48 h of incubation. The colonies grown in blood agar presented a classic punctiform shape with grey, translucent, non-haemolytic circular borders (Fig. 1). They gave off a characteristic hypochlorite odour and were catalase-negative and oxidase-positive.

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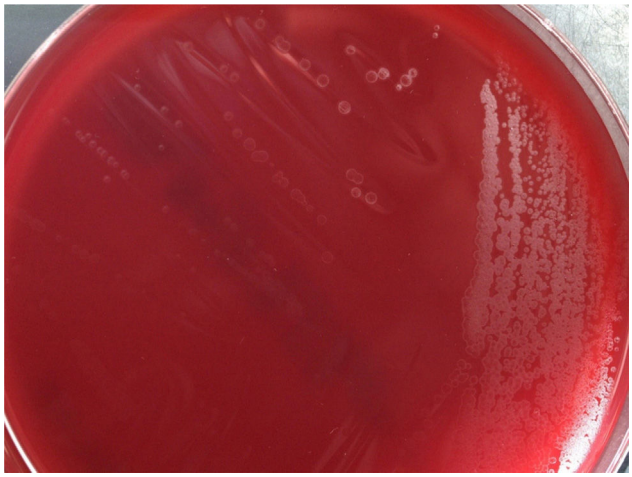

**Fig. 1.** Appearance of the colonies in blood agar after 24 h of incubation.

The bottle of blood culture was positive after 34 h of incubation. After the Gram stain, which revealed Gram-negative coccobacilli, a subculture was prepared in chocolate agar and blood agar at 37 °C and 5% $CO_2$. After 24 h of incubation, the colonies grown presented the same morphological and biochemical characteristics as the placenta culture. The automated Vitek 2® System (bioMérieux, Spain) was used to identify both microorganisms, but it failed to do so. Presumptive identification was performed using clinical chemistry tests (negative indole, positive ornithine decarboxylase and prolyl arylamidase, no carbohydrate fermentation). Finally, the 16S ribosomal RNA gene was amplified and sequenced, confirming both bacteria to be *E. corrodens*.

The sensitivity test was performed using antibiotic gradient strips in Müeller-Hinton agar, supplemented with 5% blood and NAD (MH-F, Oxoid). According to the CLSI M45 guidelines,[2] the isolated strains were sensitive to penicillin (MIC: 1 μg/ml), amoxicillin–clavulanic acid (MIC: 1 μg/ml), cefotaxime (MIC: 0.06 μg/ml), erythromycin (MIC: 4 μg/ml), ciprofloxacin (MIC: 0.006 μg/ml), cotrimoxazole (MIC: <0.002 μg/ml) and doxycycline (MIC: 1 μg/ml), intermediate to gentamicin (MIC: 4 μg/ml) and amikacin (MIC: 16 μg/ml), and resistant to clindamycin (MIC: >256 μg/ml) and metronidazole (MIC: >256 μg/ml), consistent with the antibiotic sensitivity described in the bibliography for this microorganism.[1]

The bacteria *E. corrodens* has traditionally been included in the so-called HACEK group of slow-growing, fastidious microorganisms, which are made up of the following genera: *Haemophilus*, *Aggregatibacter*, *Cardiobacterium*, *Eikenella* and *Kingella*.

Penicillin G or amoxicillin-clavulanic acid are considered the treatment of choice. In our case, after obtaining the antibiogram, intravenous penicillin G was administered (50,000 IU/kg/dose every 12 h for 7 days), with favourable progression and sterile blood culture at 5 days of life.

Very few cases of neonatal sepsis caused by *E. corrodens* have been published.[3–5] It is usually isolated in mixed infections, in patients with some degree of immunosuppression. In the case presented, *E. corrodens* chorioamnionitis was caused by genital colonisation of the bacteria during pregnancy, that ascended from the vagina. Some authors have suggested that oral sex during pregnancy may trigger chorioamnionitis by this microorganism.[6–9] It is presumed that the neonatal sepsis was vertically transmitted.

Infections caused by *E. corrodens* may be underestimated because of the bacteria's slow growth and due to the fact that they may be present in mixed infections, thereby hindering their microbiological identification.

## Conflicts of interest

The authors declare that they have no conflicts of interest.

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## Intracranial mycotic aneurysm in a 5 month-old infant with pneumococcal meningitis☆

## *Aneurisma micótico intracraneal en lactante con meningitis neumocócica*

A previously healthy 5-month-old boy vaccinated according to the official vaccination schedule (including the 23-valent pneumococcal vaccine) was admitted to the paediatric intensive care unit with symptoms of sepsis and generalised seizures. A lumbar puncture was performed, which showed fluid compatible with bacterial meningitis (1200 leukocytes, 80% neutrophils, glucose 2 mg/dl and proteins 2 g/dl), and Gram-positive diplococci was observed on the Gram stain. Antibiotic treatment was started with cefotaxime (300 mg/kg/day) and vancomycin (60 mg/kg/day). Penicillin-sensitive *Streptococcus pneumoniae* (MIC 0.008 μg/ml) and cefotaxime (MIC 0.012 μg/ml) were isolated in the blood and

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