despite the high cost, to determine the actual frequency of NoV both on sporadic cases as well as outbreaks.

Funding

No funding has been received for this research.

Conflict of interest

No conflict of interest.

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2529-993X/

Respiratory sepsis due to *Moraxella atlantae:* Utility of mass spectrometry to identify rare species☆

Sepsis respiratoria por Moraxella atlantae: *utilidad de la espectrometría de masas en la identificación de especies poco frecuentes*

We present the case report of a 77-year-old man with a history of atrial fibrillation, chronic obstructive pulmonary disease (COPD) GOLD stage IV with frequent exacerbations and a former smoker, who was admitted to hospital two weeks previously due to a COPD exacerbation. He was taking acenocoumarol and using a formoterol and glycopyrronium inhaler. The patient attended the emergency department due to fever, dyspnoea and cough with greenish expectoration.

Physical examination revealed a respiratory rate of 28 breaths per minute, blood pressure 100/55 mmHg, heart rate 85 bpm, temperature 38.3 °C, crackles at the base of the right lung and *rhonchi* in both upper lobes. The rest of the physical examination was normal. The blood test showed haemoglobin 14.4 mg/dl, leukocytes $10.70 \times 10^3/\mu l$, creatinine 0.71 mg/dl, sodium 128 mEq/l, C-reactive protein 3.6 mg/dl and oxygen blood pressure 65 mmHg. The chest X-ray revealed right basal consolidation. Blood cultures were taken and empirical antibiotic therapy with meropenem was started given the clinical suspicion of respiratory sepsis.

The patient's progression during admission in internal medicine was favourable, with resolution of fever at 48 h. One of the blood cultures was positive after 4 days of incubation. Gram staining was performed which revealed Gram-negative bacilli, and subcultures were produced in standard media.

The colonies were processed by Matrix-assisted laser desorption ionisation time-of-flight mass spectrometry (MALDI-TOF), which identified *Moraxella atlantae (M. atlantae)* with a score of 2.1.

Antibiotic therapy with meropenem, which was started in the emergency department, was maintained with good patient progression. After being admitted for 7 days, the patient was discharged home.

Discussion

The genus *Moraxella* comprises more than 20 species of aerobic, immobile, oxidase-positive Gram-negative cocci.[1] *M. atlantae* is an opportunistic microorganism that is found in human saprophytic flora. It is a very difficult microorganism to find and isolate in blood cultures.[2] We only found 2 cases in the literature of *M. atlantae* causing infection, isolated from blood cultures conducted due to fever of unknown cause, in patients with other principal diagnoses: the first, a 25-year-old patient suffering from systemic lupus erythematosus; and the second, a 31-year-old woman diagnosed with rectal adenocarcinoma.[2,3] Both progressed favourably with prescribed empirical treatment.

DOI of refers to article: http://dx.doi.org/10.1016/j.eimc.2016.03.005
☆ Please cite this article as: García-Fernández-Bravo I, Ordieres-Ortega L, Braojos-Sánchez F, Demelo-Rodríguez P. Sepsis respiratoria por *Moraxella atlantae:* utilidad de la espectrometría de masas en la identificación de especies poco frecuentes. Enferm Infecc Microbiol Clin. 2017;35:265–266.

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]

Funding

The authors did not receive funding of any kind for this study.

Conflicts of interest

The authors declare that they have no conflicts of interest.

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2529-993X/

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.

DOI of refers to article: http://dx.doi.org/10.1016/j.eimc.2016.03.004
☆ Please cite this article as: Angulo López I, Aguirre Quiñonero A, Fernández Torres M, Alegría Echauri E. Corioamnionitis y sepsis neonatal causada por *Eikenella corrodens*. Enferm Infecc Microbiol Clin. 2017;35:266–267.