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Received 17 January 2017

Received in revised form 13 November 2017

Accepted 15 December 2017
Available online 10 January 2018
https://doi.org/10.1016/j.medmal.2017.12.006

Bartholin's abscess due to *Dialister micraerophilus* in a woman presenting with repetitive bartholinitis episodes

Abcès de Bartholin dû à Dialister micraerophilus chez une femme présentant des épisodes de bartholinite répétitifs

Keywords: *Dialister micraerophilus*; Bartholin's abscess; Anaerobe

Mots clés : *Dialister micraerophilus* ; Abcès de Bartholin ; Anaérobie

1. Introduction

Dialister micraerophilus was first described in 2005 by Jumas-Bilak et al. [1]. It is a Gram-negative, non-motile, non-sporulating anaerobic coccobacillus and microaerophilic microorganism. *Dialister* spp. have been isolated from human clinical specimens, especially *D. pneumosintes*, and are associated with human clinical infections [2,3], most of them of odontogenic origin [4,5].

We recently diagnosed a rare case of Bartholin's abscess caused by *D. micraerophilus* in a patient presenting with repetitive bartholinitis episodes. To our knowledge, this is the first case of bartholinitis caused by this microorganism described in the medical literature.

2. Case presentation

A 37-year-old woman came to the Gynecology Emergency Department in September 2017 for a three-day history of pain, inflammation, and purulent secretion due to bartholinitis. The clinical history was unremarkable except for three bartholinitis episodes in the previous year treated with antimicrobials and drainage. An abscessed mass in the left Bartholin gland was observed at physical examination. The patient had already received oral cloxacillin (500 mg/6 hours) and analgesics for three days, prescribed by her gynecologist. She was not febrile and complete blood count and chemical profile were normal. The Bartholin's abscess was drained and sent to the microbiology laboratory for culture. The sample was inoculated on blood agar (either aerobic or anaerobic) (BD Columbia Agar 5% Sheep Blood, Becton Dickinson, Franklin Lakes, NY), chocolate agar (BD Choco Agar, Becton Dickinson, Franklin Lakes, NY), and thioglycolate broth (BD Fluid Thioglycollate Medium, Becton Dickinson, Franklin Lakes, NY). All media were incubated at 37°C. AnaeroGen Compact (Oxoid Ltd, Wide Road, Basingstoke, England) anaerobic system was used.

Gram staining of the fluid exhibited few Gram-negative coccobacilli, and on the third day of incubation the growth of abundant microorganisms was only reported on anaerobic blood agar. Translucent and small colonies were observed in pure culture and a mass spectrometry method (Bruker Biotyper, Billerica, MA) was used to identify the strain, i.e. *D. micraerophilus* (score 2.18). Antimicrobial susceptibility testing was performed by Etest method. As per the 2016 CLSI criteria [6], the strain was susceptible to all antimicrobials tested, except metronidazole. Minimum inhibitory concentrations (MIC) obtained for this strain were as follows: penicillin (< 0.016 μg/mL), amoxicillin-clavulanic acid (0.032 μg/mL), piperacillin-tazobactam (0.032 μg/mL), clindamycin (0.125 μg/mL), meropenem (< 0.002 μg/mL), imipenem (0.04 μg/mL), linezolid (> 256 μg/mL), vancomycin (24 μg/mL), moxifloxacin (0.125 μg/mL), and metronidazole (12 μg/mL).

The antimicrobial treatment was switched to amoxicillin-clavulanic acid for 10 days, and at one month of follow-up the patient's condition had improved and no relapse was observed.

3. Discussion

The *Dialister* genus is made of five species. Among them, *D. pneumosintes* is most frequently isolated from clinical samples. Four new species have been described since 2003 (*D. invisus*, *D. micraerophilus*, *D. succinatiphilus, D. propionicifaciens*). The involvement of *Dialister* species in human infections has been clearly established, even though the true clinical significance remains unknown. *D. pneumosintes* has been isolated from the lung, blood, brain, and maxillary sinus [2–5], and *D. micraerophilus* strains have been characterized from several clinical samples within polymicrobial cultures. However, to our knowledge, no case has so far been reported in pure culture. *Dialister* species are considered commensal organisms of the oral cavity, nasopharynx, intestine, and vaginal flora. The bacteria can spread from these locations to various organs and may cause severe disease such as bacteremia [5]. The probable source of infection in our patient is the vaginal flora, especially as she experienced several episodes of bartholinitis and had received multiple antimicrobial treatments. Attention should be paid to these diseases to avoid the spread to the blood, as previously reported [2].

The diagnosis of *D. micraerophilus* infection is based on culture of an adequate sample obtained from the infection site. Identification of strains may be difficult and colonies of *D. micraerophilus* should be differentiated from other species of the *Dialister* genus. However, the recent introduction of mass spectrometry for routine analysis in clinical laboratories may strongly contribute to final identification, as in our case patient.

Antimicrobial susceptibility data for *Dialister* species remains relatively scarce due to the difficulty in identifying the

pathogen. Morio et al. published the largest series of *Dialister* clinical isolates, reporting their antimicrobial susceptibility [7]. They reported that the 55 *Dialister* isolates were susceptible to all antimicrobial agents tested according to CLSI guidelines, whereas 33 strains showed decreased susceptibility to one or several antibiotics including metronidazole, erythromycin, pristinamycin, rifampicin, piperacillin, levofloxacin, and ciprofloxacin as per the Antibiogram Committee of the French Society for Microbiology (French acronym CA-SFM) [7]. Drago et al. also reported susceptibility to all antibiotics tested [4]. However, our isolate was resistant to metronidazole, but we did not have the chance to study the *nim* gene.

4. Conclusion

Although it is necessary to obtain further data about *Dialister* species susceptibility to antimicrobials, clinically important strains showing decreased susceptibility to several antibiotics have been reported [7] and resistance to metronidazole has been demonstrated in the present report. The recent antimicrobial susceptibility studies performed among *Dialister* species as well as our case report remind us that caution is needed when treating these infections. Susceptibility testing of these microorganisms should therefore always be performed.

Contribution of authors

Fernando Cobo (FC): design of the study, medical literature analysis, and writing of the article.

Javier Rodríguez-Granger (JRG): medical literature analysis and writing of the article.

Antonio Sampedro (AS): medical literature analysis and review of the article.

José María Navarro-Marí (JMNM): review of the article.

Disclosure of interest

The authors declare that they have no competing interest.

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Received 27 November 2017

Accepted 28 December 2017
Available online 1 February 2018
https://doi.org/10.1016/j.medmal.2017.12.008

Premier cas de transmission croisée de *K. pneumoniae* BLSE mcr-1 en France

First case of mcr-1 ESBL-producing K. pneumoniae cross-transmission in France

Mots clés : Gène mcr-1 ; Polymixine

Keywords: Mcr-1 gene; Polymyxin

1. Introduction

La colistine est un antibiotique peu utilisé en raison de sa toxicité, en particulier rénale. La colistine est un antibiotique de dernier recours en particulier lors d'infections sévères liées à certaines entérobactéries productrices de carbapénémases (EPC). En 2016, Liu et al. ont décrit l'émergence d'une résistance plasmidique à la colistine, appelée *mcr-1*. Ce gène transmissible a été identifié chez *Escherichia coli* et *Klebsiella pneumoniae*, isolés chez des patients ainsi que chez des animaux destinés à la consommation humaine (porc, poulet) [1]. L'émergence de résistance à cette molécule fait craindre depuis l'apparition d'une panrésistance totale aux antibiotiques chez certaines entérobactéries [1–3].

En France en 2016, quatre cas de patients porteurs d'entérobactérie comportant cette résistance plasmidique ont été décrits. Il s'agissait de cas isolés, aucun cas secondaire n'avait été identifié. Nous rapportons la survenue de deux cas au sein du même établissement de santé.

2. Observations

Une femme de 62 ans a été hospitalisée en septembre 2016 en cardiologie pour la prise en charge d'un choc cardiogénique. L'hospitalisation avait été initialement proposée par son médecin traitant en raison de l'aggravation d'un prolapsus