



CASE REPORT

Eikenella corrodens and *Porphyromonas asaccharolytica* pleural empyema in a diabetic patient with obstructive sleep apnea syndrome on noninvasive ventilation ☆

J. Caiano Gil*, R. Calisto, J. Amado, V. Barreto

Serviço de Medicina Interna e Serviço de Pneumologia, Departamento de Medicina, Hospital Pedro Hispano, Unidade Local de Saúde de Matosinhos - E.P.E., Senhora da Hora, Portugal

Received 29 February 2012; accepted 24 October 2012

KEYWORDS

Pleural empyema;
Continuous positive
airway pressure;
Obstructive sleep
apnea;
Eikenella corrodens;
Porphyromonas

PALAVRAS-CHAVE

Empiema pleural;
Ventilação não
invasiva;
Apneia obstrutiva do
sono;
Eikenella corrodens;
Porphyromonas

Abstract *Eikenella corrodens* is a normal inhabitant of the human oral cavity and gastrointestinal and genitourinary tracts.

Pleuropulmonary infections by this microorganism are uncommon. Pulmonary aspiration is a chief predisposing condition. Although the outcome is usually favorable, its distinctive antibiotic sensitivity pattern makes bacterial identification an important feature in dealing with this infection.

The authors report a case of pleural empyema caused by co-infection with *E. corrodens* and *Porphyromonas asaccharolytica*, in an immunocompetent diabetic patient with obstructive sleep apnea syndrome, followed by a discussion on the role of noninvasive ventilation in the development of this infection.

© 2012 Sociedade Portuguesa de Pneumologia. Published by Elsevier España, S.L. All rights reserved.

Empiema pleural por *Eikenella corrodens* e *Porphyromonas saccharolytica* numa doente diabética sob ventilação não invasiva por síndrome de apneia obstrutiva do sono

Resumo A *Eikenella corrodens* é um microrganismo habitualmente encontrado na mucosa oral, trato gastrointestinal e trato geniturinário de humanos.

Os casos de infeção pleuropulmonar por este agente são raros em indivíduos imunocompetentes, sendo a aspiração um fator importante na sua patogenia. Apesar de apresentar geralmente um prognóstico favorável, o reconhecimento desta infeção é essencial dado o perfil de sensibilidades característico.

☆ Please cite this article as: Caiano Gil J, et al. Empiema pleural por *Eikenella corrodens* e *Porphyromonas saccharolytica* numa doente diabética sob ventilação não invasiva por síndrome de apneia obstrutiva do sono. Rev Port Pneumol. 2013. <http://dx.doi.org/10.1016/j.rppneu.2012.10.004>.

* Corresponding author.

E-mail address: joao.gil@ulsm.min-saude.pt (J. Caiano Gil).

Os autores apresentam um caso de empiema pleural por *E. corrodens*, em coinfeção com *Porphyromonas asaccharolytica*, numa doente diabética imunocompetente com síndrome de apneia obstrutiva do sono, discutindo o papel da ventilação não invasiva como fator predisponente da referida infeção.

© 2012 Sociedade Portuguesa de Pneumologia. Publicado por Elsevier España, S.L. Todos os direitos reservados.

Case report

A 69-year-old female, with a history of obesity, diabetes mellitus, arterial hypertension, dyslipidemia, New York Heart Association class II heart failure, atrial fibrillation and obstructive sleep apnea syndrome (OSAS) on non-invasive ventilation – nocturnal continuous positive airway pressure (CPAP) delivered through an oronasal mask – was evaluated for shortness of breath and dry cough which had developed over seven days. On admission, she was afebrile, with mean arterial pressure of 114 mmHg, pulse of 93 bpm and respiratory rate of 24/min, with hypoxemic respiratory insufficiency. Auscultation revealed diminished breath sounds and tactile fremitus over the left chest. Her teeth were in reasonable condition, with no suspicious lesions in the oropharynx. Physical examination was otherwise unremarkable. Laboratory markers of inflammation were elevated and chest roentgenogram demonstrated a large left pleural effusion. The patient underwent thoracentesis that revealed a purulent fluid collection. A chest tube was inserted, attached to water-seal drainage, and ceftriaxone plus metronidazole were empirically prescribed. A non-beta-lactamase-producing strain of *Eikenella corrodens* was isolated from the pleural fluid on the sixth day; antibiotics were then changed to penicillin-G benzathine. A strain of *Porphyromonas asaccharolytica* was subsequently isolated from the same sample. All blood and sputum cultures, as well as acid-fast bacillus and fungal cultures of pleural fluid, were negative.

The patient remained afebrile over the following days, with no signs of respiratory distress by day 5, when the chest tube was removed. Evaluation with flexible bronchoscopy on the seventh day showed no endobronchial lesions and analysis of the bronchoalveolar lavage fluid was negative for microorganisms and cancer cells. Transthoracic echocardiography revealed pulmonary hypertension in correlation with OSAS.

The patient was discharged from hospital on day 23, on respiratory kinesitherapy and amoxicillin-clavulanate for two additional weeks. Pre-discharge chest roentgenogram showed residual pleural effusion. The patient remained well during follow-up two years after hospitalization.

Discussion

E. corrodens is a normal inhabitant of the oral cavity, gastrointestinal and genitourinary tracts, and it has been isolated from head and neck infections, as well as those associated with human bites.^{1,2} Other reported infections include endocarditis, osteomyelitis, parotitis, sinusitis, meningitis, cerebral abscess and chorioamnionitis.¹⁻⁴

E. corrodens is a slowly growing, microaerophilic gram-negative bacillus. Its identification is based on the characteristics of colonies, which have typically pitting morphology; these are usually small with brighter center, irregular contours and hypochlorite odor. Other features include failure to produce catalase from glucose and capacity to reduce nitrates to nitrites.^{2,3} Since it requires several-day incubation on routine aerobic cultures, clinical suspicion is crucial.

E. corrodens is also recognizable for its intrinsic resistance to antibiotics with anaerobic activity such as clindamycin and metronidazole.⁵ It is generally considered susceptible to penicillin-G and ampicillin, since most strains are non-beta-lactamase producers. Sensitivity to cephalosporins is variable.¹⁻³

P. asaccharolytica is a strict anaerobic gram-negative bacillus commonly found in gastrointestinal and genitourinary tracts.⁶ This bacterium develops into convex colonies, which are distinguishable due to their centripetal darkening appearance attributable to protoheme production. Although very few cases have been described, reported clinical presentations include soft-tissue infections, pleural empyema and appendicular abscess.

Most of the patients with pleuropulmonary infection by *E. corrodens* present as parapneumonic effusion, pleural empyema, pneumonia and pulmonary abscess.^{2,5,6} Many cases are associated with mixed infections by microaerophilic streptococci, *Streptococcus viridans*, *Bacteroides fragilis*, *Prevotella melaninogenica* and *P. asaccharolytica*, most of which are normal inhabitants of the oral cavity.^{2,3,7} The possibility of synergistic mechanisms between *E. corrodens* and streptococcal strains has been brought up by some studies.¹

Pleuropulmonary infections by *E. corrodens* are rare, particularly in immunocompetent adults; fewer than fifteen cases have been described. Host factors such as immunosuppressive conditions, underlying lung disease and oropharyngeal and gastrointestinal aspiration predisposing factors play an important role in the pathogeny of this infection.³ In fact, there is a close relationship between *E. corrodens* infection and neoplastic disease, alcoholism, diabetes mellitus, and chronic pulmonary and cerebrovascular disease, as well as poor dental hygiene and chronic glucocorticoid use.^{1-3,7}

Some of the studies suggest that OSAS can contribute to aspiration. Beal et al.⁸ reported that these patients are at an increased risk for pharyngeal aspiration when compared to normal patients. Gleeson et al.⁹ performed quantitative measurements of aspirated material in a standard population of patients, and showed that aspiration was negligible in normal volunteers without symptoms of sleep apnea. The exact reason for this is not totally clear, although it

Download English Version:

<https://daneshyari.com/en/article/4214894>

Download Persian Version:

<https://daneshyari.com/article/4214894>

[Daneshyari.com](https://daneshyari.com)