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Review Article

Postoperative Pneumonia of Association *Haemophilus Influenzae* and *Neisseria Meningitidis* in a Diabetic Child

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Abstract

Introduction: Haemophilus influenzae is a saprophytic host nasopharynx with nearly two-thirds of children and adults. Neisseria meningitidis is a strictly human bacteria that lives in the nasopharynx, which can cause mild or asymptomatic carriage nasopharyngitis status. We report a case of postoperative pneumonia Haemophilus influenzae and Neisseria meningitidis Association in a diabetic patient.

Observation: 3 years old patient diabetic, admitted to cardiovascular surgery service for late surgical treatment. The postoperative clinical course has been marked by an aggravation of respiratory status, becoming congested with heavy secretions that require hospitalization in intensive care. An infectious assessment was performed, including a protected distal sampling which revealed an association of Neisseria meningitidis and Haemophilus influenzae.

Conclusion: Through this case we are discussing bacterial associations in risk situations. Each one of the two species is responsible for various infections. Yet the association at the same site is rare.

Keywords: Haemophilus influenza; Neisseria meningitides; Postoperative pneumonia; Diabetic patient

Introduction

Neisseria meningitidis is a conventional bacteria in infectious diseases, responsible for meningeal infections. The most encountered clinical forms are cerebrospinal meningitis and acute meningococcaemia. Atypical cases are also articular, skin, heart, urogenital, stomach, eye and pulmonary. Haemophilus influenzae, which are potentially pathogenic bacteria, is a frequent host of the nasopharynx. The infection is a result of colonization. Knowing the parameters of colonization and infection helps determine risk factors, including age. We have brought a rare case of postoperative pneumonia Haemophilus influenzae and Neisseria meningitidis Association in a diabetic kid.

Observation

3 years old diabetic patient, admitted to cardiovascular surgery service for late entry in the surgical management of ventricular septal defect with peri-membranous thrive. The transthoracic echocardiography was objectified VSD PM, 14mm in pulmonary hypertension. The postoperative course has been marked by an aggravation of respiratory status, has become cluttered with abundant secretions requiring hospitalization in intensive care. An infectious assessment has been achieved, a protected distal sampling was a purulent at macroscopic examination. Microscopic examination from the collected purulent first parcel included a cytological study to assess the number of epithelial cells (index of oropharyngeal contamination), richness polynuclear plenty of bronchial cells. Furthermore the bacteriological examination was holding germs in or around the neutrophils. Their abundance (Gram-negative cocci) was noted, as well as their location intra leukocyte. The cultures were incubated and observed at 24 hours and 48 hours. The culture was rich significant and combining two species H. influenzae and N. meningitidis. The wealth of culture for each pathogen species was presumed noted. Antibiograms which was directed showed a resistance of H. influenzae and N. meningitidis that was aminopenicillin multi sensitive to antibiotics. The patient was treated with a third generation cephalosporin with a good evolution.

Discussion

Isolated extraméningées locations of meningococcus are rare and usually reported in the form of single clinical cases. The extraméningées locations the most frequently described are bacteremia (5-20% of cases) and pneumonia (5-15%) [1-2]. Pneumonia N. meningitidis affect a population over 40 years. Other locations are rare and varied. They can be ocular (panophthalmitis, endophthalmitis, purulent conjunctivitis) [3, 4], cardiac (endocarditis, pericarditis, myocarditis, conduction abnormalities) [5], rheumatological (septic or reactive arthritis, osteomyelitis), [6] and urogenital digestive tract (urethritis, peritonitis, ascites) [7]. The diagnosis of meningococcal pneumonia is controversial because the sputum can be contaminated with pharyngeal simple port. Moreover, meningococcus is often associated with another germ [8]. The occurrence of meningococcal disease is favored by the existence of immunosuppression (HIV infection, elderly, corticosteroids, blood disease, systemic disease [9-10]). People with a deficit of humoral immunity mediated by the complement have more risk of developing a meningococcal infection meningococcemia .The risk is higher in patients exposed to tobacco and during viral throat infections, probably alteration of the mucosal barrier of the nasopharynx. [11] Haemophilus influenzae is a commensal bacterium, of which there are many varieties, the

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majority is not encapsulated and can occasionally develop infections. In systemic or she is involved infections, the bacteria is almost always encapsulated. The role of pili (fimbriae =) is less clear than for H. influenzae meningitis. Besides pili, there are the adhesins to facilitate the attachment to the mucosa, interacting with receptors. The piliées strains are more invasive. [12] Protected levies type transtracheal puncture, bronchial aspiration, bronchial brushing or pleural fluid intake are more interesting than the conventional sputum positivity and help to make the diagnosis of bronchopulmonary infection with N. meningitidis and H. influenzae [13 -15]. The meningococcus is, half the time associated with other pathogenic bacteria such as the pneumococcus, H. influenzae, Staphylococcus aureus, Mycobacterium tuberculosis [16].

The prognosis of extra meningeal infections meningococcus is different for adults and children. In adults, there is a constant associated immunosuppression, septic locations are diverse, often confusing clinical presentation, delayed diagnosis and poor prognosis, infection is systematically sought by lumbar puncture and a throat swab made of outset. Conversely, in children, the clinical presentation is more homogeneous than in adults. Fever is the main reason for hospitalization. The clinic is more stereotyped; the Evolution is quickly favorable, with a short course of antibiotics. According to a study, based on 468 children followed for 18 months [17], colonization by H. influenzae is established gradually. She spends 5% 1-3 months 24% at 18 months, while colonization by pneumococcus is faster, reaching a maximum in 4-7 months. The frequency of colonization by H. influenzae increases with siblings and living in a nursery. In adults, the frequency of colonization decreased modestly, four out of ten adults against eight in ten children [18].

Conclusion

Infections caused by meningococcal association and Haemophilus are not exclusively represented by meningitis or meningococcemia. There are also forms of bronchopulmonary. They seem to be much more common than it appeared. They often go unnoticed. The extra-meningeal events are far less common. A very particular attention should be paid to bronchopulmonary manifestations neglected until today .Through this case we brought bacterial associations in risk situations. Each one of these two species is responsible for various infections. Yet the association at the same site is rare.

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