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Otolaryngology Current Trends

Casey YH, David AS. Otolaryngol Curr Trends: J103.

Case Report

Staphylococcus Lentus Rhinosinusitis: A New Sinonasal Pathogen

Casey Y Hay*, David A Sherris

Department of Otolaryngology, University at Buffalo, Buffalo, New York, USA

***Corresponding author:** Casey Y Hay, University at Buffalo, Buffalo, New York, USA, Tel: + 716-362-9585; Fax: 716-362-9588; Email: cyhay10@gmail.com

Citation: Casey YH, David AS (2017) *Staphylococcus Lentus* Rhinosinusitis: A New Sinonasal Pathogen. Otolaryngol Curr Trends: J103.

Received Date: 19 May 2017; **Accepted Date:** 27 May 2017; **Published Date:** 02 June 2017

Abstract

Background: The pathogens most commonly associated with acute bacterial rhinosinusitis include *Streptococcus pneumonia, Haemophilus influenza* and *Moraxella catarrhalis.* The pathogens most commonly associated with chronic rhinosinusitis include Staphylococcus aureus and various anaerobic organisms, including *Prevotella, Porphyromonas, Fusobacterium* and *Peptostreptococcus.* This case report illustrates a case of chronic rhinosinusitis associated with the *Staphylococcus lentus* organism, a well known animal pathogen that has never been documented in the sinonasal cavity before.

Methods: The medical records of an adult patient that presented to the Otolaryngology office were reviewed. The literature available was reviewed.

Results: A 62-year-old man presented with chronic rhinosinusitis refractory to medical management. He was taken to the operating room for functional endoscope sinus surgery and cultures were obtained, which returned positive for *Staphylococcus lentus*. He had no known animal contacts at home or work. He improved with surgery and appropriate antibiotic therapy.

Conclusions: *S. lentus* has never before been reported as a human pathogen in the sinonasal cavities. Otolaryngologists must routinely obtain cultures of mucus or tissue during sinus surgery in order to ensure appropriate antibiotic treatment after surgery and resolution of patient symptoms

Keywords: Acute Rhinosinusitis; Chronic Rhinosinusitis; Functional Endoscopic Sinus Surgery; *Staphylococcus Lentus;* Rhinosinusitis Pathogens; Zoonosis

Introduction

Acute and chronic rhinosinusitis are well known entities to the average otolaryngologist. The pathogens most commonly associated with community acquired acute bacterial rhinosinusitis include *Streptococcus pneumonia, Haemophilus influenza, Moraxella catarrhalis,* and occasionally *Staphylococcus aureus* and anaerobes [1].The pathogens most commonly associated with community acquired chronic rhinosinusitis include *Staphylococcus aureus*, gram-negative enteric organisms such as *Pseudomonas aeruginosa* and anaerobes such as *Prevotella* species and fusobacteria, in addition to those organisms commonly causing acute rhinosinusitis [2]. This case report illustrates a case of chronic rhinosinusitis associated with the *Staphylococcus* lentus organism, a well known animal pathogen that has never been documented in the sinonasal cavity before.

Case Report

A 62-year-old man presented to an otolaryngology office for evaluation and treatment of chronic rhinosinusitis. For the past four months he experienced sinus congestion, right greater than left, hyposmia, nasal discharge, aural fullness on the right and occasional epistaxis. He reported significant facial pain in the maxillary and ethmoid sinus areas. He had been prescribed amoxicillin, amoxicillin/clavulanic acid, doxycycline, levofloxacin and topical and oral steroids prior to evaluation. He also performed topical gentamicin and saline nasal irrigations without significant relief. His past medical history included seasonal allergic rhinitis. He denied any history of asthma, bronchitis or pneumonia. He denied any nasal trauma or previous head and neck surgery. He was currently a nonsmoker but had smoked tobacco products in the past. He came to the office with a CT scan of the sinuses, which showed advanced bilateral maxillary sinus mucosal disease with associ-

ated opacification and air-fluid levels, moderate bilateral ethmoid sinus mucosal disease and mild sphenoid and frontal sinus mucosal disease.

Physical exam in the office showed slight deviation of the septum to the left with a large bony spur on the left impacting the middle meatal region. There were no polyps, lesions or masses noted on either side. There was no mucopurulent drainage in either nasal cavity to obtain for culture.

After a lengthy discussion the patient consented to septoplasty and functional endoscopic sinus surgery to address his chronic rhinosinusitis refractory to medical management. During surgery, there was a large amount of thick gray-white mucus found in the bilateral maxillary sinuses and this was cultured. The left maxillary sinus culture grew *Staphylococcus* lentus, which was sensitive to clindamycin and gentamicin. The patient was given a prescription for oral clindamycin and performed topical gentamicin nasal irrigations. One month after surgery he reported complete resolution of his nasal symptoms. When asked about animal contact, the patient reported no interaction with animals at home or work.

Discussion

Staphylococcus lentus is a coagulase-negative staphylococcus that is a part of the *Staphylococcus sciuri* group along with *S. sciuri* and *S. vitulinus.* These bacteria are traditionally considered animal pathogens and have been isolated from a wide range of pets, farm animals, wild animals and food of animal origin. They can also be found in the soil, sand, marsh grass and water where these animals live. *S. sciuri* has been identified as the causative organism in several serious human infections, including endocarditis, peritonitis, septic shock, urinary tract infection, endophthalmitis, pelvic inflammatory disease and wound infections [3].

S. lentus, on the other hand, has been associated with very few human infections. Those that have been reported include infection of the spleen, peritoneum, blood, urine, cerebrospinal fluid and skin [4-6]. To our knowledge, there have been no reports of *S. lentus* isolated from the sinonasal cavities, either in asymptomatic patients or patients with sinusitis. Variable antibiotic resistance to macrolides, lincosamides, streptogramins and clindamycin has been reported among bacteria from the *S. sciuri* group [7]. Therefore, we emphasize the importance of obtaining cultures and antibiograms in treating rare infections.

Conclusion

S. lentus has never before been reported as a human pathogen in the sinonasal cavities. Otolaryngologists must routinely obtain cultures of mucus or tissue during sinus surgery in order to ensure appropriate antibiotic treatment after surgery and resolution of patient symptoms.

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