**Staphylococcus lentus Sinusitis: A New Sinonasal Pathogen**

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**Abstract**

**Background:** The pathogens most commonly associated with acute bacterial rhinosinusitis include *Streptococcus pneumonia*, *Haemophilus influenzae*, 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 who 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 endoscopic 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:** *Staphylococcus 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, *Staphylococcus lentus*, rhinosinusitis pathogens, zoonosis, chronic rhinosinusitis

**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 influenzae*, and *Moraxella catarrhalis*, and occasionally *Staphylococcus aureus* and anaerobes.1 The pathogens most commonly associated with community-acquired chronic rhinosinusitis include *S. aureus*, gram-negative enteric organisms such as *E. aerogenosa*, 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 4 months, he experienced sinus congestion, right greater than left, hyposmia, nasal discharge, aural fullness on the right, and occasional epistaxis.1 He reported significant facial pain in the maxillary and ethmoid sinus areas. He had been prescribed amoxicillin, amoxicillin/clavulanic acid, doxycycline, levofoxacin, 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 non-smoker but had smoked tobacco products in the past. He came to the office with a computed tomography scan of the sinuses, which showed advanced bilateral maxillary sinus mucosal disease with associated opacification and air–fluid levels, moderate bilateral ethmoid sinus mucosal disease, and mild sphenoid and frontal sinus mucosal disease.

Physical examination 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 *S. 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 *Staphylococcus 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. *Staphylococcus 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

*Staphylococcus 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**

*Staphylococcus 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.

**Declaration of Conflicting Interests**

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