

Acute and chronic rhinosinusitis, pathophysiology and treatment

ABSTRACT

Acute sinusitis (ARS) and chronic rhinosinusitis (CRS) is a common condition worldwide. CRS is due to the infection and inflammation of paranasal sinuses. Frequent clinical manifestations of ARS include persistent symptoms with nasal discharge or cough or both, presentation with fever accompanies purulent nasal discharge, and worsening symptoms. Complications of CRS have five stages, preseptal cellulitis, orbital cellulitis, subperiosteal abscess, orbital abscess and cavernous sinus septic thrombosis. Most acute sinusitis generally of viral origin, e.g. rhinoviruses, corona viruses, and influenza viruses. Bacterial pathogens include Streptococcus pneumoniae, Haemophilus influenzae and Moraxella catarrhalis. Bacteria found in biofilms have their antibiotic resistance increased up to 1000 times when compared to bacteria free living of same species. Sinusitis also results from fungal invasion in patients with diabetes, immunodeficiencies, and AIDS or transplant patients. Bacterial and viral sinusitis are difficult to distinguish. The diagnosis of acute sinusitis should be on clinical presentation in most patients CT scan of sinuses is useful for patients with complications and in patients in whom sinus surgery is considered. MRI may have a role in the diagnosis of fungal rhinitis. The benefit of Functional Endoscopic Sinus Surgery (FESS) is its ability for a more targeted approach. Recently developed treatment by balloon sinuplasty is promising. A short-course of antibiotics is helpful in clinically diagnosed bacterial sinusitis without complicating factors.