

Infections of the Head and Neck

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COMMON COLD

Definition and Epidemiology

The common cold is a syndrome of sore throat, rhinorrhea, and nasal congestion caused by viruses. Adults average two or three colds per year, and children have five to seven colds each year. The common cold accounts for 110 million visits to health care providers, an estimated 20 million lost work days, and at least \$3 billion in expenses for medications. Viruses are transmitted most efficiently by direct contact, but aerosol transmission also occurs.

Pathogenesis and Microbiology

The pathogenesis varies with the pathogen. For example, rhinovirus has no histological effect on the mucosal epithelium, whereas influenza virus destroys it. The syndrome is caused by many viruses including rhinovirus (30% to 40%), influenza virus, parainfluenza virus, adenovirus, coronavirus, respiratory syncytial virus, enteroviruses and metapneumovirus. No organism can be identified in 25% to 30% of cases.

Clinical Presentation

Symptoms include an initial sore throat that develops into rhinorrhea, nasal congestion, sneezing, and cough after several days. Patients may also complain of fever, malaise, and hoarseness. The presence of myalgias may indicate influenza virus, whereas conjunctivitis may indicate adenovirus or enteroviruses. Symptoms peak from 3 to 6 days and last from 7 to 10 days, but viral shedding can occur 2 to 3 weeks after infection.

Laryngitis frequently accompanies the common cold. Patients complain of hoarseness, voice breaks or aphonia. Laryngitis typically lasts 3 days and is self limited. Unusual causes of laryngitis include group A streptococci, *Hemophilus influenzae*, *Corynebacterium diphtheriae*, *Mycobacterium tuberculosis*, and fungi.

Croup is a subglottic viral infection manifesting in children typically under 3 years of age. Patients present with a characteristic rough and stridulous cough and stridor on breathing. Diagnosis is clinical and treatment symptomatic.

Treatment

Treatment of the common cold is symptomatic; treatments include decongestants for nasal congestion, nonsteroidal anti-inflammatory drugs (NSAIDs) for fever and myalgia, lozenges for sore throat, and dextromethorphan for cough. Zinc and Echinacea have not been shown to be effective. There is also no convincing evidence supporting preventative measures. Viral laryngitis and croup are treated symptomatically; there is no evidence that antibiotics help.

For a deeper discussion of these topics, please see Chapter 361, "The Common Cold," in Goldman-Cecil Medicine, 25th Edition.

ACUTE BACTERIAL SINUSITIS

This section focuses on acute community-acquired bacterial sinusitis.

Definition and Epidemiology

Bacterial sinusitis is inflammation and bacterial infection of the paranasal sinuses. Bacterial sinusitis follows the common cold in 0.5% to 2.0% of cases in adults and in 6% to 13% of cases in children. Sinusitis accounts for 23 million health care visits each year and 20 million antibiotic prescriptions per year.

Pathogenesis

Sinusitis occurs when the sinus ostias narrow from inflammation, mucosal cilia become dysfunctional and disrupted, and mucus becomes viscous. The sinuses, which are normally sterile, become colonized with nasal bacteria and infection results. The major organisms identified by sinus puncture are *Streptococcus pneumoniae* and *H. influenzae* (Table 91-1); 30% to 40% of cultures are negative. Fungi cause a rare syndrome of rhinocerebral mucormycosis in diabetics.

Clinical Presentation

The symptoms and signs of acute bacterial sinusitis have a large overlap with the common cold. Table 91-2 shows the sensitivity and specificity of symptoms and signs in sinusitis. Nasal discharge/obstruction, facial pain, and maxillary toothache are suggestive. Physical findings of nasal discharge, facial pain, and pain on palpation of the sinuses are nonspecific and variable. Most important is that symptoms of the common cold peak between days 3 and 6 and resolve by day 10. Sinus infection occurs characteristically after 10 days of infection. There are three patterns of acute bacterial sinusitis: symptoms persisting for more than 10 days; severe symptoms, including fever and purulent nasal discharge over 3 to 4 days; and common cold symptoms that improve and then suddenly worsen.

Diagnosis

The diagnosis of acute bacterial sinusitis is most often made on clinical grounds as noted previously. Imaging can be helpful in situations in which the diagnosis is unclear or there are complications. Unfortunately, the common cold can also result in positive findings. Computed tomography (CT) is the procedure of choice if indicated.