

МЕДИЦИНА, ПЕДАГОГИКА И ТЕХНОЛОГИЯ: ТЕОРИЯ И ПРАКТИКА

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Том 2, Выпуск 11, Ноябрь

Diseases of the upper respiratory tract

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Annotation: Upper respiratory tract infections can be defined as self-limited irritation and swelling of the upper airways with associated cough and no signs of pneumonia, in a patient with no other condition that would account for their symptoms, or with no history of chronic obstructive pulmonary disease, emphysema, or chronic bronchitis. Upper respiratory tract infections involve the nose, sinuses, pharynx, larynx, and large airways. This activity examines when an upper respiratory tract infection should be considered on differential diagnosis and how to properly evaluate it. This activity highlights the role of the interprofessional team in caring for patients with this condition.

Key words: illnesses. Bacteria, infections, symptom's, patients, medical condition.

Introduction

Upper respiratory tract infections can be caused by a wide range of bacteria and viruses. These are the source of some patient illnesses, such as influenza, common colds, acute bronchitis, and respiratory distress syndromes. It is challenging to define the majority of these patient conditions since upper respiratory tract infections (URIs) and their associated symptoms frequently overlap and share similar causes. Upper respiratory tract infections are characterized by self-limited irritation and swelling of the upper airways together with a cough that does not indicate pneumonia, does not have a coexisting medical condition that could be the cause of the patient's symptoms, and does not have a history of chronic bronchitis, emphysema, or COPD. [1] Infections of the upper respiratory tract affect the major airways, pharynx, larynx, sinuses, and nose.

Methods

Common cold continues to be a large burden on society, economically and socially. The most common virus is rhinovirus. Other viruses include the influenza virus, adenovirus, enterovirus, and respiratory syncytial virus. Bacteria may cause roughly 15% of sudden onset pharyngitis presentations. The most common is *S. pyogenes*, a Group A streptococcus.

Risk factors for a URTI

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- Close contact with children: both daycares and schools increase the risk fo URI
- Medical disorder: People with asthma and allergic rhinitis are more likely to develop URI
- Smoking is a common risk factor for URI
- Immunocompromised individuals including those with cystic fibrosis, HIV, use of corticosteroids, transplantation, and post-splenectomy are at high risk for URI
- Anatomical anomalies including facial dysmorphic changes or nasal polyposis also increase the risk of URI

Epidemiology

Across the country, URIs are one of the top three diagnoses in the outpatient setting. Estimated annual costs for viral URI, not related to influenza, exceeds \$22 billion. Upper respiratory tract infections account for an estimated 10 million outpatient appointments a year. Relief of symptoms is the main reason for outpatient visits amongst adults during the initial couple weeks of sickness, and a majority of these appointments result with physicians needless writing of antibiotic prescriptions. Adults obtain a common cold around two to three times yearly whereas pediatrics can have up to eight cases yearly. Fall months see a peak in incidence of common cold caused by the rhinovirus. Upper respiratory tract infections are accountable for greater than 20 million missed days of school and greater than 20 million days of work lost, thus generating a large economic burden.

Pathophysiology

A URTI usually involves direct invasion of the upper airway mucosa by the organism. The organism is usually acquired by inhalation of infected droplets. Barriers that prevent the organism from attaching to the mucosa include 1) the hair lining that traps pathogens, 2) the mucus which also traps organisms 3) the angle between the pharynx and nose which prevents particles from falling into the airways and 4) ciliated cells in the lower airways that transport the pathogens back to the pharynx.

The adenoids and tonsils also contain immunological cells that attack the pathogens.

Influenza

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The incubation period for influenza is 1 to 4 days, and the time interval between symptom onset is estimated to be 3 to 4 days. Viral shedding can occur 1 day before the onset of symptoms. It is believed that influenza can be transferred among humans by direct contact, indirect contact, droplets, or aerosolization. Short distances (<1 meter) are generally required for contact and droplet transmission to occur between the source person and the susceptible individual. Airborne transmission may occur over longer distances (>1 m). Most evidence-based data suggest that direct contact and droplet transfer are the predominant modes of transmission for influenza.

Conclusion

Upper respiratory tract infections are one of the most common illnesses that healthcare workers will encounter in an outpatient setting. The infection may vary from the common cold to a life-threatening illness like acute epiglottitis. Because of the diverse causes and presentation, upper respiratory tract infections are best managed by an interprofessional team.

The key is to avoid over-prescribing of antibiotics but at the same time not missing a life-threatening infection. Nurse practitioners who see these patients should freely communicate with an infectious disease expert if there is any doubt about the severity of the infection. The pharmacist should educate the patient on URI and to refrain from overusing unproven products.

Similarly, the emergency department physician should not readily discharge patients home with antibiotics for the common cold. Overall, upper respiratory tract infections lead to very high disability for short periods. Absenteeism from work and schools is common; in addition, the symptoms can be annoying and extreme fatigue is the norm. Patients should be encouraged to drink ample fluids, rest, discontinue smoking and remain compliant with the prescribed medications. Nursing can monitor the patient's condition and symptoms, counsel on medication compliance, and report any concerns to the clinicians managing the case. Interprofessional cooperation is key to good outcomes.

Finally, clinicians should urge patients to get vaccinated before the flu season. While the vaccine may not decrease the duration of the infection, the symptoms are much less severe.

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