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An Overview on "Symptoms, Causes and Treatment of Upper Respiratory Tract Infections"

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ABSTRACT:
Upper respiratory tract infections (URTIs) are most common infections in humans and animals also, approximately in 2015; there are 17.2 billion cases of URTIs are estimated to have occurred. Early diagnosis is very essential to avoid the severe morbidity and the risk of hospitalization associated with many URTIs. Identification of the various pathogens before antibiotic therapy is initiated is still problematic. Several factors that affect the patient and widespread occurrence of URTIs may be attributed to breathing of contaminated air, direct contact with infected people, overcrowded places, cigarette smoking and exposure to pathogens. Upper respiratory tract infections (URTIs) may be characterized by a group of disorders which include common cold, pharyngitis, tonsillitis, epiglottitis, sinusitis, bronchitis, rhinitis infections. An upper respiratory tract infection (URTIs) was caused by many virus or bacterial infections or both. This review paper has been aimed to discuss the symptoms, causes, transmission of infections, types of various URTIs and its treatment.

KEYWORDS: *Upper respiratory tract Infections, Causes, NSAID, Antibiotics*

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I. INTRODUCTION:

An upper respiratory infection affects the upper part of respiratory system. Upper respiratory infection includes patient sinuses and throat. Upper respiratory infection symptoms include a runny nose, sore throat and cough. These infections affect the respiratory system which causes problem in breathing it can affects patient sinuses. It gives acute infection. In 2015; there are 17.2 billion cases of URTIs are estimated to have occurred. As per record of 2014; URTI causes 3,000 deaths, down from 4,000 in 1990. In Upper respiratory infection affects throat and sinuses. The infection of Upper respiratory includes Common cold, Epiglottitis, Laryngitis, Pharyngitis (sore throat) and Sinusitis (sinus infection).

Symptoms of URTI:

There are different types of upper respiratory infection can cause different symptoms. It may include;

1. Coughing
2. Discomfort in the nasal passages
3. Fever
4. More mucus
5. nasal congestion
6. Pain or pressure within the face
7. Runny nose
8. Sneezing
9. Difficulty in breathing
10. Headache
11. loss of sense

Causes of URTI:

An upper respiratory infection caused by both viruses and bacteria. Some examples of Virus and Bacteria given below;

1. **Viruses causing URTI:**
- ✓ Rhinovirus
- ✓ Adenovirus
- ✓ Para influenza Virus

2. **Bacteria causing URTI:**
- ✓ Group A beta-hemolytic streptococci
- ✓ Group C beta-hemolytic streptococci
- ✓ *Corynebacterium diphtheriae* (diphtheria)
- ✓ *Neisseria gonorrhoeae* (gonorrhea)
- ✓ *Chlamydia pneumoniae* (chlamydia)

Types of Upper Respiratory Infection:

There are several types of Upper Respiratory Infection doctors classify them according to the part of the respiratory tract that they mainly affect. Types of URTI include:

Common Cold:

Many viruses can cause cold. The symptom of Common Cold includes a blocked or runny nose, a sore throat, headaches, muscle aches, coughing and sneezing, changes in taste and smell, a fever and pressure in the ears and face. These symptoms get removed with the home treatment after one to two weeks.

Sinusitis:

It is inflammation of sinuses. This inflammation may lead to increased mucus production and blocked sinuses, due to difficulty draining of water and foods. The symptoms of sinusitis are pain around the eyes, cheeks, or fore head, sinus pressure and tenderness, nasal discharge, a blocked nose, a reduced sense of smell, a fever and bad breath; these symptoms get removed with the home treatment after two to three weeks.

Laryngitis

It is inflammation of vocal cord. It includes common symptoms like a hoarse voice or loss of voice, a persistent cough and irritation in the throat, and a sore throat. These symptoms get removed with the home treatment after one to two weeks.

Pharyngitis

It is inflammation of mucus membranes i.e. in a line of pharynx. It includes common symptoms like a sore or scratchy throat, inflammation, fever, headache and

Transmission of URTI:

URTI can spread from one person to other patients by aerosol droplets and direct hand-to-hand contact. There are some ways to spread Upper respiratory tract infections, they are given below;

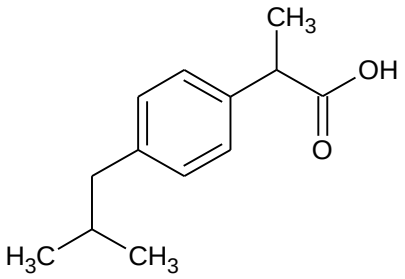
- ✓ When someone who's sick sneezes or coughs without covering their nose and mouth droplets containing the viruses are sprayed into the air.
- ✓ When affected people are in a closed-in area or crowded conditions. People who are in hospitals, institutions, schools, and day care centers have increased risk of upper respiratory tract infection because of close contact.
- ✓ When patient touch his nose or eyes. Infection occurs when the infected secretions come in contact with patient nose or eyes. Viruses can live on objects, such as doorknobs.
- ✓ When humidity is low. Indoor heating favors survival of many viruses that cause URIs.
- ✓ If patient have a weakened immune system.

Treatment:

Upper Respiratory Infection may solve without treatment but sometimes, these infections can cause more serious symptoms or complications that need professional care. Some OTC i.e. over-the-counter medicines may help adults with URI symptoms. The treatment of Upper Respiratory Infection can be done by following drugs

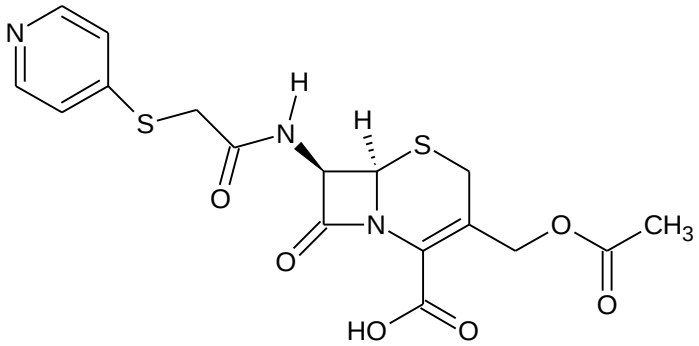
- ✓ Ibuprofen
- ✓ Cefapirin
- ✓ Cefradine
- ✓ Erythromycin
- ✓ Cefotaxime
- ✓ Cefpodoxime
- ✓ Cefixime

Ibuprofen:



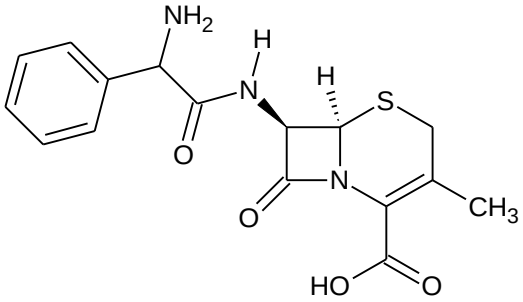
Ibuprofen is an example of non-steroidal anti-inflammatory drug. This drug is derivative of Propionic acid. This drug used in the treatment of reducing the pain and to reduce the fever with inflammation. Ibuprofen is weaker anti-inflammatory drug. About 60% people were recovering by this drug. This drug gives fewer side effects as compared to other NSAIDs. This drug gives side effect like nausea, dyspepsia, gastro intestinal bleeding, gastro intestinal ulceration, increases the liver problem, diarrhea, abdominal pain, constipation, headache, skin rash, salt and fluid retentions with hypertension.

Cefapirin:



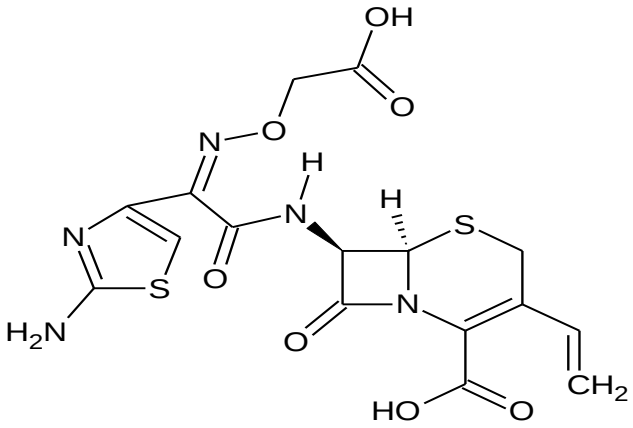
Cefapirin is also known as Cephapirin. This drug is administered by intravenously or as injectable. This drug is first-generation cephalosporin antibiotic. The trade name of Cefapirin is Cefadyl. The production of Cefapirin is discontinued in the United States for the use for humans. This drug is used as veterinary medicine as trade name as Metricure. This drug is used in combination with prednisolone in Mastiplan an intramammary preparation in cattle.

Cefradine:



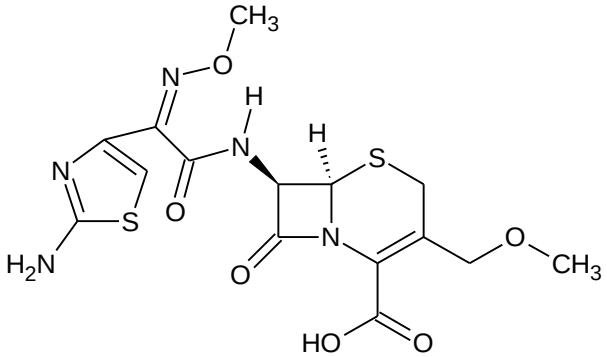
Cefradine is also known as Cephradine. This drug is a first generation cephalosporin antibiotic. It gives similar spectrum of activity as Cefalexin. Cephradine is used in the treatment of respiratory tract infections such as tonsillitis, pharyngitis and lobar pneumonia caused by streptococci and S.pneumoniae. This drug is used to treat H.influenzae and Staphylococci and skin infections. This drug is effectively used for infection of urinary tract infections such as E.coli, P.mirabilis, Klebsiella species and enterococci.

***Cefixime**:*



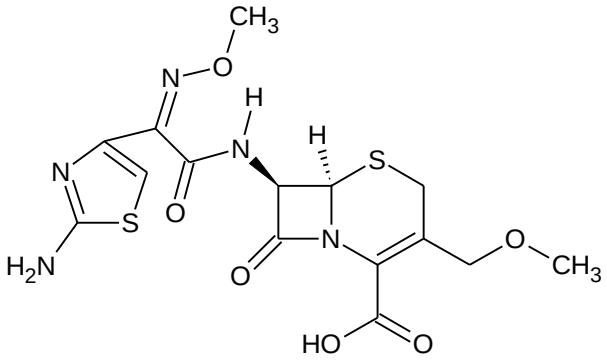
Cefixime is an example of third-generation cephalosporin antibiotic. Cefixime is a broad spectrum cephalosporin antibiotic used in the treatment of urinary tract infection and upper respiratory tract infections. It gives bactericidal action by inhibiting cell wall synthesis. It binds to the penicillin binding proteins (PBPs) which inhibit the final transpeptidation step of the peptidoglycan synthesis in the bacterial cell wall. Thus it gives inhibition of bacterial cell death.

***Cefpodoxime**:*



Cefpodoxime is an example of third-generation cephalosporin antibiotic. it is available in the form of orally. This drug is active against Gram-positive and Gram-negative bacteria. This drug gives notable exceptions includes Pseudomonas aeruginosa, Enterococcus and Bacteroides fragilis. This drug is used in the treatment of acute media, pharyngitis, sinusitis and gonorrhea.

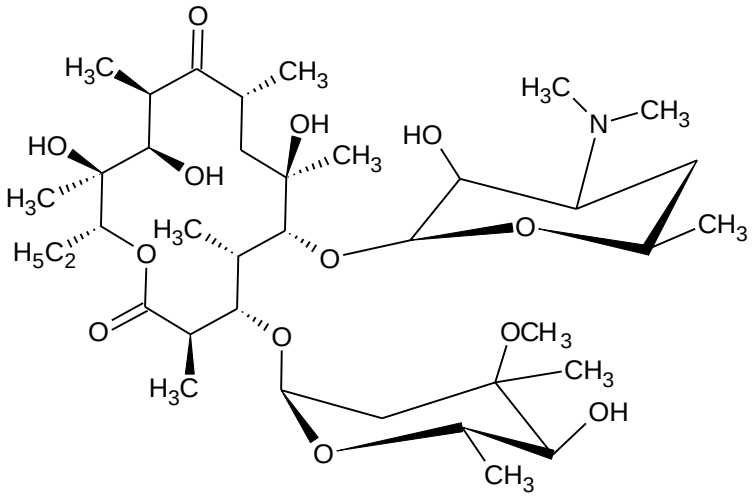
Cefotaxime:



Cefotaxime is an example of third-generation cephalosporin antibiotic. This drug gives broad-spectrum antibiotic. This drug is effectively used against in the treatment of numerous Gram-positive and Gram-negative bacteria. Cefotaxime is introduced or discovered in 1980 and developed by Hoechst-Roussel Pharmaceuticals. It was the first third generation or extended spectrum cephalosporin. This drug is now available in the United States. Cefotaxime is used against in the treatment of variety of infections like upper respiratory tract infections,

genitourinary infections, and gynecologic infections, intra-abdominal infections, bone and joint infections, CNS infections.

Erythromycin:



Erythromycin is an example of macrolide antibiotic drug. This drug is used for various bacterial infections. This drug is also used in the treatment of respiratory tract infection, Chlamydia infection, skin infection and syphilis. This drug is also used during pregnancy period and during breast feeding. This drug can be administered by orally or by intravenously. This drug is also available in the form of eye ointment and used for the treatment of eye infection in newborn.

II. CONCLUSION:

Upper respiratory tract infections have been referred as a group of disorders like common cold, pharyngitis, tonsilitis, sinusitis, bronchitis, and rhinitis. Upper respiratory tract infections caused by various bacteria like streptococcus pyrogens, mycoplasma pneumoniae, chlamydophila pneumoniae, bordetella pertussis, streptococcus pneumoniae, haemophilus influenzae or virus like hinovirus, coronavirus, parainfluenza virus, adenovirus, enterovirus and syncytial virus,or both.there are some common symptoms like coughing, sore throat, sneezing, difficulty in breathing, runny nose, muscle pain, and weakness. There are a number of preventive measures which involve washing hands, avoid sharing of eatables, and taking seasonal vaccines. Some antibiotics and NSAID are useful to control upper respiratory tract infections i.e. URTI.

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