Module 3

Sinusitis
Introduction

Sinusitis is the inflammation of the air cavities within the passages of the nose (paranasal sinuses)\(^1\).

Each year 10 to 15 million people develop sinusitis symptoms\(^2\) making it a widespread medical condition.

The Sinuses

To fully understand sinusitis, we first need to understand what the sinuses are. Very simply, the sinuses are air-filled spaces or cavities within the skull that are lined with mucous membranes\(^3\).

Causes

Sinusitis, or the inflammation of the sinuses, can be caused by any of the following\(^1,3,4,5,6\):

- Viral infections, such as rhinovirus and influenza
- Bacterial infections, such as streptococci and pneumococci
- Fungal infections, such as *Aspergillus* and *Sporothrix*
- Allergic reactions to pollen, animal hair\(^1\), irritants and topical fungi
- Structural abnormalities, such as nasal polyps
- Dehydration and lack of sufficient humidity
- Medications that dry out the mucous membranes of the nose

Categories of sinusitis

Sinusitis can generally be divided into the following categories\(^5\):

- **Acute:** Resolved within 30 days
- **Subacute:** Resolved in 30 to 90 days
- **Recurrent:** A cycle of 4 or more acute episodes per year
- **Chronic:** Symptoms lasting for more than 90 days

Progression from a common cold to sinusitis

Let’s take a step-by-step look at how sinusitis usually develops from a common cold\(^2\):

**Step 1:** The mucous membranes in the nasal cavity swell up and block the openings of the sinuses during a cold.

**Step 2:** As a result, more air in the sinuses is absorbed into the bloodstream.

**Step 3:** Pressure inside the sinuses decreases, drawing fluid into the sinuses and causing discomfort.

**Step 4:** The resultant build-up of trapped fluid encourages bacteria and other harmful organisms to breed.

**Step 5:** White blood cells and more fluid enter the sinuses to fight off the bacteria, leading to continued pressure changes and pain.

**Did you know**

Sinuses add resonance to the voice\(^1\) and reduce the weight of the facial bones and skull, while at the same time supporting bone strength and the shape of the head.
**Symptoms**

Pain in the sinus area(s) is one of the most common symptoms of sinusitis. Acute and chronic sinusitis share similar symptoms, but pain tends to be more pronounced in acute sinusitis. Other symptoms include:

- Congestion in the nose
- Swelling over the infected sinus
- Facial pain and tenderness
- Decreased sense of smell
- Possible bad breath or halitosis
- Headache – due to pressure in blocked sinuses, bending down can increase pain
- Toothache – caused by pressure on surrounding nerves and tissues
- Earache – caused by pressure on surrounding nerves and tissues
- Eye pain – caused by pressure on surrounding nerves and tissues
- Productive cough – especially at night
- Discoloured nasal discharge – in severe cases
- General feeling of malaise – fatigue due to fever, immune response or coughing
- Postnasal drip – this irritates the throat tissue and is associated with chronic sinusitis

**Diagnosis**

**Top tip**

Ask your patient whether they are experiencing fever and chills, because when these develop it could mean the infection has spread beyond the sinuses. Knowing the exact symptoms will help you establish what the best course of action is.

**Which sinuses are affected**

<table>
<thead>
<tr>
<th>AFFECTED SINUS</th>
<th>SYMPTOMS EXPERIENCED BY PATIENT</th>
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</thead>
<tbody>
<tr>
<td>Maxillary sinus</td>
<td>Inflammation of the maxillary sinuses causes pain over the cheeks.</td>
</tr>
<tr>
<td>Frontal sinuses</td>
<td>Infamed frontal sinuses cause pain in the forehead.</td>
</tr>
<tr>
<td>Ethmoid sinus</td>
<td>Infected ethmoid sinuses cause pain behind the eyes, tearing, and splitting headaches over the forehead.</td>
</tr>
<tr>
<td>Sphenoid sinus</td>
<td>When the sphenoid sinuses are inflamed it is difficult to pinpoint the area of discomfort and pain may come from the front or back of the head.</td>
</tr>
</tbody>
</table>

**Tip for pharmacy staff**

Asking the right questions, gives you insight into fully understanding the customer’s condition. These questions serve as an excellent springboard to help pharmacists diagnose a patient’s complaint:

- Who is the medicine for?
- What are their symptoms?
- How long have the symptoms persisted?
- What action has already been taken?
- Is the person taking any other medication?
Sinusitis in children\(^2,5\)

There is often some confusion when it comes to distinguishing between upper respiratory tract infections and sinusitis in children. A pus-filled nasal discharge which continues for more than 10 days, and a lethargic child plagued with a persistent cough, however, is generally an indication of sinusitis.

Urgent assistance

The main complication of sinusitis is the spread of a bacterial infection, which can result in swelling and vision changes when the tissue around the eye is affected. In rarer cases, bacterial infections can spread to the tissue around the brain, which can cause severe headaches, confusion and possibly meningitis. Patients who develop these symptoms should seek medical treatment immediately\(^7\). Some rare fungal infections of the sinuses, such as zygomycosis, are also deemed medical emergencies\(^1\).

How to use nasal spray effectively

Advise patients on how to get the full benefit out of their decongestant and saline nasal sprays\(^8,9\).

- Wash hands before and after using a nasal spray.
- Blow the nose gently before the spray is used.
- Attempt to inhale through each nostril before using the spray. If the nose is too blocked the medicine might not go deep into the nasal passages and will be wasted.
- Gently insert the nozzle into a nostril and press the other nostril down with a finger, to close it.
- Angle the nozzle of the spray container toward the back of the head. The spray needs to go straight, so it goes where it needs to work.
- Breathe in slowly through the nose while spraying.
- If sprayed correctly, no excess spray should drip from the nose or run down the throat, as this can potentially irritate inflamed nasal passages more.
- Avoid sneezing or blowing the nose immediately after using the spray.
- Sometimes it helps to use a saline nose spray, just before using a regular decongestant nose spray, to clear the passages for the medicine.
- Stop using the spray for a day or two if the inside of the nose stings, hurts or nosebleeds occur.
- For best results use a saline nasal spray regularly and consistently.
- It may take up to 2 weeks to get the full effects of a steroid nasal spray.
- Wash the nozzle of any nasal spray with warm water after every use.
- Always read pamphlets included in the packaging of the medicine carefully.
- Keep decongestant spray away from direct sunlight.
Over the counter (OTC) treatment

Sinutab® is designed to offer relief from hay fever and the symptoms of sinusitis, colds and flu. Treatment is aimed at improving sinus drainage and controlling the infection, as well as treating symptoms such as pain, pressure-related discomfort and fever.

Sinutab® has a variety of over-the-counter (OTC) remedies, which can be used in conjunction with each other to assist.

<table>
<thead>
<tr>
<th>OTC remedy</th>
<th>Effect</th>
<th>SINUTAB® product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decongestants</td>
<td>Helps to shrink swollen nasal membranes²</td>
<td>Sinutab® Nasal Spray, Sinutab® Sinus Pain Extra Strength, Sinutab® Sinus Pain Non-Drowsy and Sinutab® 3-Way</td>
</tr>
<tr>
<td>Nonsteroidal anti-inflammatory drugs (NSAIDs)³, for example aspirin and ibuprofen. Analgesics, antipyretics⁴ such as paracetamol.</td>
<td>Relieve aches and pains and reduce fever⁵</td>
<td>Sinutab® Sinus Pain Extra Strength, Sinutab® Sinus Allergy Congestion and Pain, and Sinutab® 3-Way</td>
</tr>
</tbody>
</table>

The Sinutab® range is especially designed to treat nasal congestion and the symptoms of sinusitis.

**SINUTAB® SINUS PAIN EXTRA STRENGTH**
Severe sinus pain

Symptomatic relief of:
- Severe sinus pain
- Malaise and fever
- Nasal and sinus congestion
- Hay fever, influenza and common cold

**SINUTAB® SINUS PAIN NON-DROWSY**
Multi-symptom daytime relief (non-drowsy)

Symptomatic relief of head cold symptoms:
- Nasal congestion
- Pressure
- Headache

**SINUTAB® 3-WAY**
Multi-symptom relief

Symptomatic relief of colds and flu:
- Nasal congestion
- Headache
- Fever
- Body aches and pains
Quick Question
When does sinusitis require urgent medical assistance?

References