MANAGEMENT OF RHINOSINUSITIS IN ADULTS IN PRIMARY CARE

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CLINICAL PRACTICE GUIDELINES
ON
MANAGEMENT OF RHINOSINUSITIS
IN
adolescents and adults

Ministry of Health Malaysia
Malaysian Society of Otorhinolaryngologist - Head & Neck Surgeons (MSO-HNS)
Academy of Medicine Malaysia
Introduction

• Rhinosinusitis (RS) poses a major health problem and affects the patients’ quality of life

• Majority patients present in primary care setting

• Primary healthcare providers aware of the diagnosis and management of the disease
Introduction

• Rhinosinusitis (RS) is characterized by mucosal inflammation of the nose and paranasal sinuses.

• Diagnosis of Rhinosinusitis:
  
  History
  
  ±
  
  Endoscopic signs
  
  OR computed tomography scan changes
  
  OR past history of rhinosinusitis
DIAGNOSIS: HISTORY

• Two or more symptoms
  – Nasal obstruction/blockage/congestion
  – Nasal discharge (rhinorrhoea / postnasal drip)
  ± Facial pain / pressure
  ± Reduction or loss of smell
DIAGNOSIS

AND at least one of the following:

- Endoscopic signs of:
  - nasal polyps
  - mucopurulent discharge
  - mucosal oedema

- CT changes:
  - mucosal thickening

- Past history of Chronic Rhinosinusitis (medically diagnosed)
DIAGNOSIS

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• Past history of Chronic Rhinosinusitis (medically diagnosed)
Physical examination

• Anterior rhinoscopy
  – In ARS, it should be performed at primary care
    • Mucosal oedema and nasal discharge (purulent, greenish or brownish)
  – In diagnosing CRS, it has a limited value vs nasal endoscopy
Examination in ARS

THUDICUM SPECULUM
Examination in ARS

COTTLE SPECULUM
Examination in ARS

OTOSCOPE and EAR PIECE
Nasal endoscopic examination
Classification

2 types based on the duration of the symptoms:

• Acute Rhinosinusitis (ARS)
  – worsening of symptoms after 5 days or symptoms persist after 10 days and less than 12 weeks\(^1\)

• Chronic Rhinosinusitis (CRS)
  – symptoms persisting for >12 weeks\(^8\)

***Common cold - symptoms < 5 days
Definition of ARS

Figure 1. Definition of Acute Rhinosinusitis

ACUTE BACTERIAL RHINOSINUSITIS (ABRS)

• AT LEAST three symptoms / signs
  – unilateral purulent, greenish or brownish nasal discharge
  – unilateral facial pain
  – fever (> 38° C)
  – elevated ESR or CRP
  – double sickening (becoming worse again after initial recovery)
Epidemiology

• ARS prevalence rate ranges from 6 - 15%.\(^1\)
  ◦ Majority of ARS cases are viral in origin.\(^1\)
  ◦ Only 0.5 - 2.0% are complicated by bacterial infections

• CRS prevalence rate is approximately 2.7 - 8% in Asia.\(^2\)

Risk factors for Acute Rhinosinusitis

• Active smokers
• Allergic rhinitis

Risk factors for Chronic Rhinosinusitis

– second-hand smokers
– positive family history
– asthma
– allergic and non-allergic rhinitis
– gastroesophageal reflux disease
– adenotonsillitis

SEVERITY OF RHINOSINUSITIS

no nasal symptoms

worst nasal symptoms

VAS > 5 – affect quality of life
Laboratory Investigation – Culture and Sensitivity (C&S)

• Evidence showed that swab C&S has a low predictive value in diagnosing ABRS & CRS.\(^{23}\)

• In ABRS, patients who do not respond to first- & second-line antibiotics, an endoscopic-directed middle meatal culture by ENT surgeons is recommended.\(^{22}\)

Acute Bacterial Rhinosinusitis (ABRS)

- Main pathogens:
  - *Streptococcus pneumoniae*
  - *Haemophilus influenzae*
  - *Moraxella catarrhalis*
    - more common in children
- Anaerobic organisms are predominant in ABRS with dental origin
Chronic Rhinosinusitis

Bacteriology is different from ABRS

• Main pathogens:
  – *Staphylococcus aureus*
  – *Enterobacteriaceae*
  – *Pseudomonas spp*
Imaging

• Plain radiography has no role in diagnosing rhinosinusitis.\textsuperscript{18}

• CT scan is the gold standard for radiographic evaluation of the paranasal sinuses.\textsuperscript{19}

• Indications for CT scan in RS are:\textsuperscript{18}
  – failed medical therapy
  – planned for surgery
  – rhinosinusitis with complications

\textsuperscript{19} Rosenfeld RM, et al. Otolaryngol - Head Neck Surg (United States) 2015;152:S1–39
Treatment

• Medical therapy

• Surgery
Medical therapy : Acute Rhinosinusitis

1. Buffered or normal saline nasal irrigation
   - removal of mucus, infective agents and inflammatory mediators
   - decreases nasal crusting
   - increases mucociliary clearance

2. Oral antihistamine
   - Rhinosinusitis with underlying allergic rhinitis
Medical therapy : Acute Rhinosinusitis

3. **Corticosteroids** – reduce the inflammation and mucosal oedema

Topical - intranasal corticosteroid spray for 2-3 weeks

Oral - should not be prescribed at primary care setting due to possibility of exacerbation of bacterial infection.
Technique of INS administration
Medical therapy : Acute Rhinosinusitis

4. Antibiotics

In ABRS,

Amoxycillin 500 mg thrice daily for 5-7 days

OR

Amoxycillin/Clavulanate acid 625 mg twice daily for 5-7 days
Other Medications

Decongestants:

• Topical decongestants should not be prescribed for > 2 weeks due to the rebound phenomenon

• Oral decongestants should be cautiously prescribed in those with insomnia, glaucoma, benign prostate hyperplasia, diabetes mellitus and cardiovascular diseases
Other Medications

• Analgesics – paracetamol or NSAIDs provide symptomatic relief

• No evidence to support the use of mucolytic agent and anti-viral in treatment rhinosinusitis
Medical therapy: Chronic Rhinosinusitis

1. Corticosteroids

Topical:
- Intranasal corticosteroid spray for 4 – 12 months

Oral:
- Short-term oral corticosteroid should be prescribed by ENT surgeon
- 25 mg per day for 2 weeks
Medical therapy: Chronic Rhinosinusitis

1. Buffered or normal saline nasal irrigation
   - removal of mucus, infective agents and inflammatory mediators
   - decreases nasal crusting
   - increases mucocilliary clearance

2. Oral antihistamine
   - Chronic rhinosinusitis with underlying allergic rhinitis
Management of ARS for primary care & Non-ORL centre
Orbital and intracranial complications

Refer specialist
Management of CRS for primary care & Non-ORL centre
Presence of $\geq 2$ symptoms (duration $\geq 12$ weeks):
One of which should be nasal obstruction or purulent/greenish nasal discharge
$\pm$ facial pain, headache
$\pm$ smell disturbance
Examination: anterior rhinoscopy
(plain X-ray is NOT recommended)

Topical steroids
Nasal irrigation

Re-evaluation after four weeks

- Improvement of symptom(s)
  - Continue therapy
- No
  - Refer to ORL specialist
REFERRAL - definitions

- Early: 1 week
- Urgent: 24 hours
# ACUTE RHINOSINUSITIS

<table>
<thead>
<tr>
<th>Early</th>
<th>Urgent</th>
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<tbody>
<tr>
<td>• Persistent symptoms despite optimal therapy</td>
<td>• Orbital involvement - Periorbital edema/erythema, displaced globe, double vision, restricted eye movement, reduced vision</td>
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<td>• Frequent recurrence ($\geq 4$ per year)</td>
<td>• Severe frontal headache</td>
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- Early signs and symptoms:
  - Persistent symptoms despite optimal therapy
  - Frequent recurrence ($\geq 4$ per year)
  - Suspected malignancy
  - Primary immunodeficiency syndrome

- Urgent signs and symptoms:
  - Orbital involvement - Periorbital edema/erythema, displaced globe, double vision, restricted eye movement, reduced vision
  - Severe frontal headache
  - Forehead swelling
  - Neurological manifestation
  - Septicaemia
Pott’s puffy tumour
(forehead /frontal swelling)

Periorbital oedema/erythema
# CHRONIC RHINOSINUSITIS

<table>
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<tr>
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<th>Urgent</th>
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| • Failed a course of optimal medical therapy  
• >3 nasal infection per year  
• Suspected fungal infections, granulomatous disease or malignancy  
• Primary immunodeficiency syndrome | • Severe pain or swelling of the sinus areas (lower threshold for immunocompromised patients e.g. uncontrolled diabetes, end stage renal failure, HIV) |
Indication of Surgery

ARS:
- No clinical improvement after 24-48 hrs of IV antibiotics

CRS:
- Orbital or intracranial complications
- Fail optimal medical therapy
ENDOSCOPIC SINUS SURGERY
Take Home Messages

- Diagnosis of RS can be made at primary health care level.
- Majority of ARS are viral in origin.
- Anterior rhinoscopy is mandatory at primary care.
- Swab C&S and plain sinus x-ray have no role in managing RS.
- Oral corticosteroids and Decongestant should be cautiously prescribed.
- Urgent referral for rhinosinusitis with intraorbital and intracranial complications.
Management of rhinosinusitis in adults in primary care

Husain S, Amilia HH, Rosli MN, Zahedi FD, Sachlin IS on behalf of Development Group Clinical Practice Guidelines Management of Rhinosinusitis in Adolescents & Adults


Abstract

Rhinosinusitis is a common health problem encountered in primary care. It is due to mucosal inflammation of the nose and paranasal sinuses. Less than 2% of the cases are associated with bacterial infections. Diagnosis is based on clinical symptoms and supported by nasal endoscopy and imaging studies. Intranasal corticosteroids and normal saline irrigation are important treatments. Antibiotics are seldom indicated.

Introduction:

RS poses a major health problem. The disease and its effects on quality of life, productivity, ...
Details of the evidence supporting the above statements can be found in Clinical Practice Guidelines on the Management of Rhinosinusitis in Adolescents & Adults 2016, available on the following websites:

http://www.moh.gov.my (Ministry of Health Malaysia)

and

http://www.acadmed.org.my (Academy of Medicine).

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THANK YOU