

# Case Study

Women, 45 years old, loss of smell with acute onset of nasal obstruction, rhinorrhea, and facial pressure

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# Clinical History

- October, 45 yr old woman with clinical history of acute rhinitis
  - Teacher, married with two children, lives in Barcelona downtown
  - Referred acute onset of nasal symptoms, worsening after the first week and persistent for the last 2 weeks
  - First symptoms were pharyngitis, nasal congestion, watery rhinorrhea, and sneezing
  - After a week, facial maxillary pressure, purulent rhinorrhea, and loss of smell appeared. No fever was reported.
- Personal and family history
  - Similar episodes during winter, 2-3 per year
  - Nasal itching and sneezing in spring and fall (few weeks)
  - No history of wheezing or asthma
  - Mother with bronchial asthma

# Drug intake

- As usually does, she has treated the symptoms herself
  - She has used a topical decongestant to treat nasal congestion, paracetamol for pain, and nasal saline for rhinorrhea when going to bed
  - Occasionally, he has used OTC antihistamines and nasal topical corticosteroids during spring and fall
- She describes that current nasal symptoms, predominantly, the loss of smell, have progressively worsened during the last 10 days
- Since there is no improvement, she asks for an antibiotic !

# Diagnosis

- In the present case, which diagnostic tools need to be performed ?
  - Patient's clinical history
  - ENT examination, including rhinoscopy / endoscopy
  - Other:
    - Allergic tests (skin prick, blood)
    - Smell test
    - Imaging (CT scan)
    - Nasal culture (microbiology)

# Acute rhinosinusitis: clinical definition



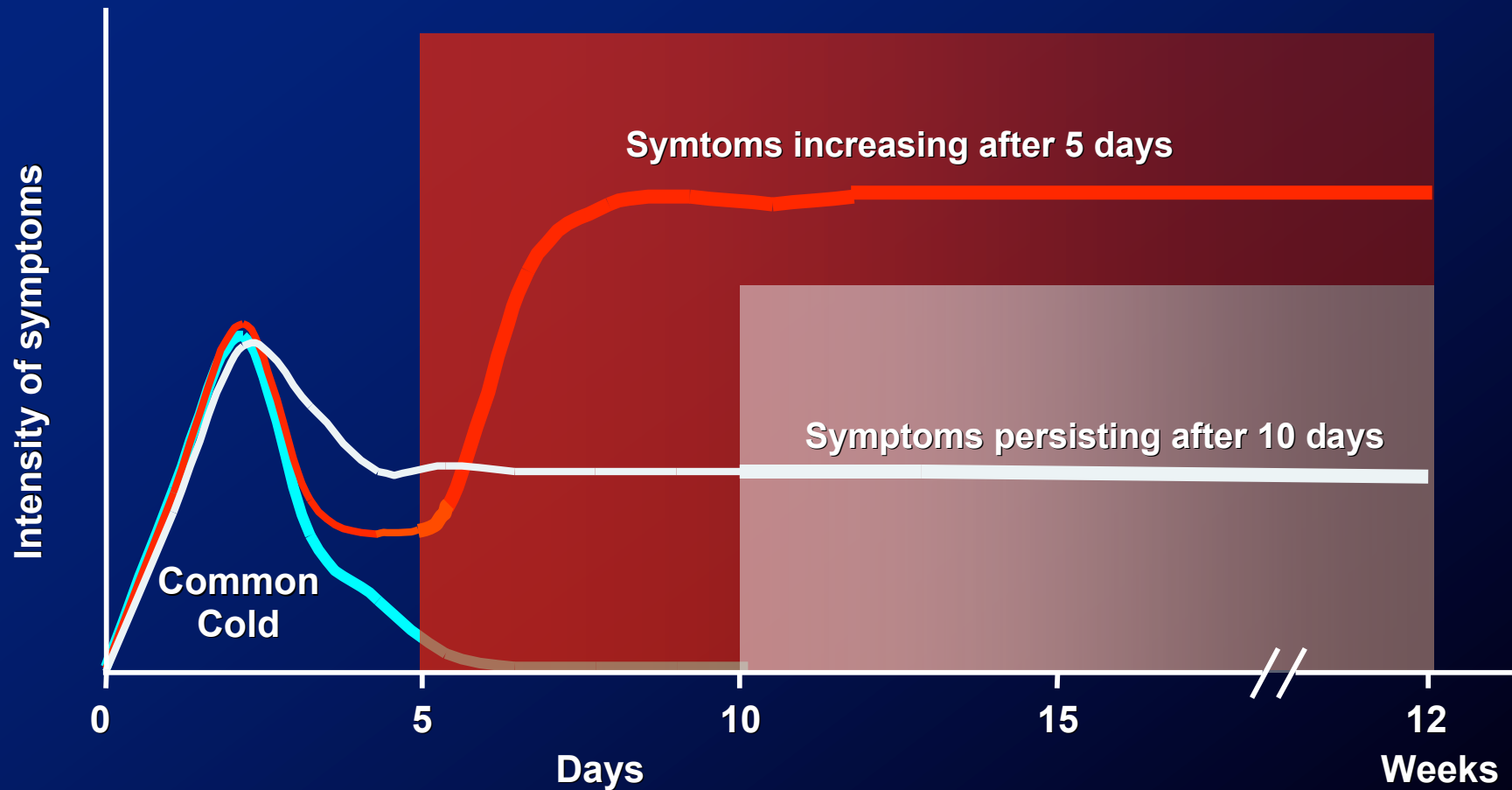
## 1. Common cold / viral rhinosinusitis

- Duration of symptoms < 10 days

## 2. Acute Rhinosinusitis

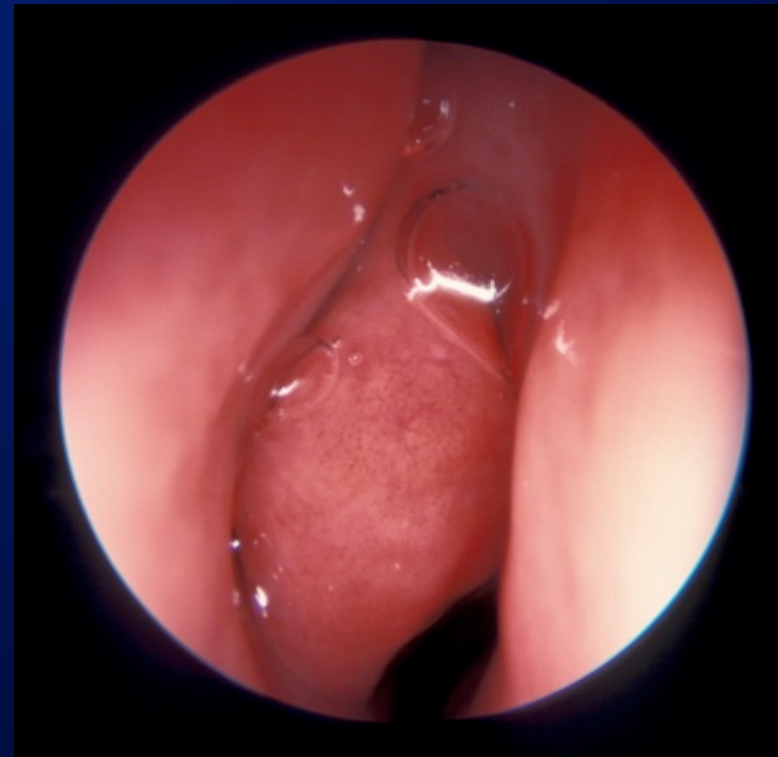
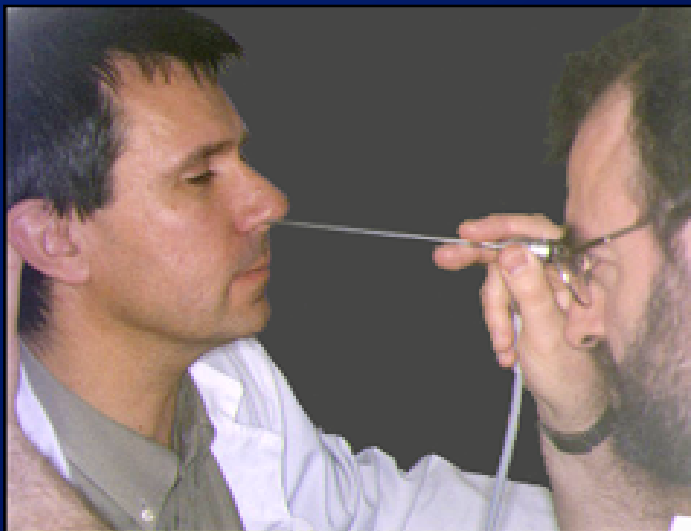
- Sudden onset of at least TWO symptoms:
  - nasal congestion / blockage
  - discoloured discharge / postnasal drip
  - reduction / loss of smell
  - facial pain / pressure (mainly unilateral),
- Evolution / duration of symptoms:
  - increase after 5 days
  - persist after 10 days, and < 12 weeks

# Acute rhinosinusitis: clinical definition



Fokkens W, Lund V, Mullol J, et al. *Rhinology* 2007 (Suppl 20): 1-136.  
[www.ep3os.org](http://www.ep3os.org)

# Nasal examination: rhinoscopy, endoscopy

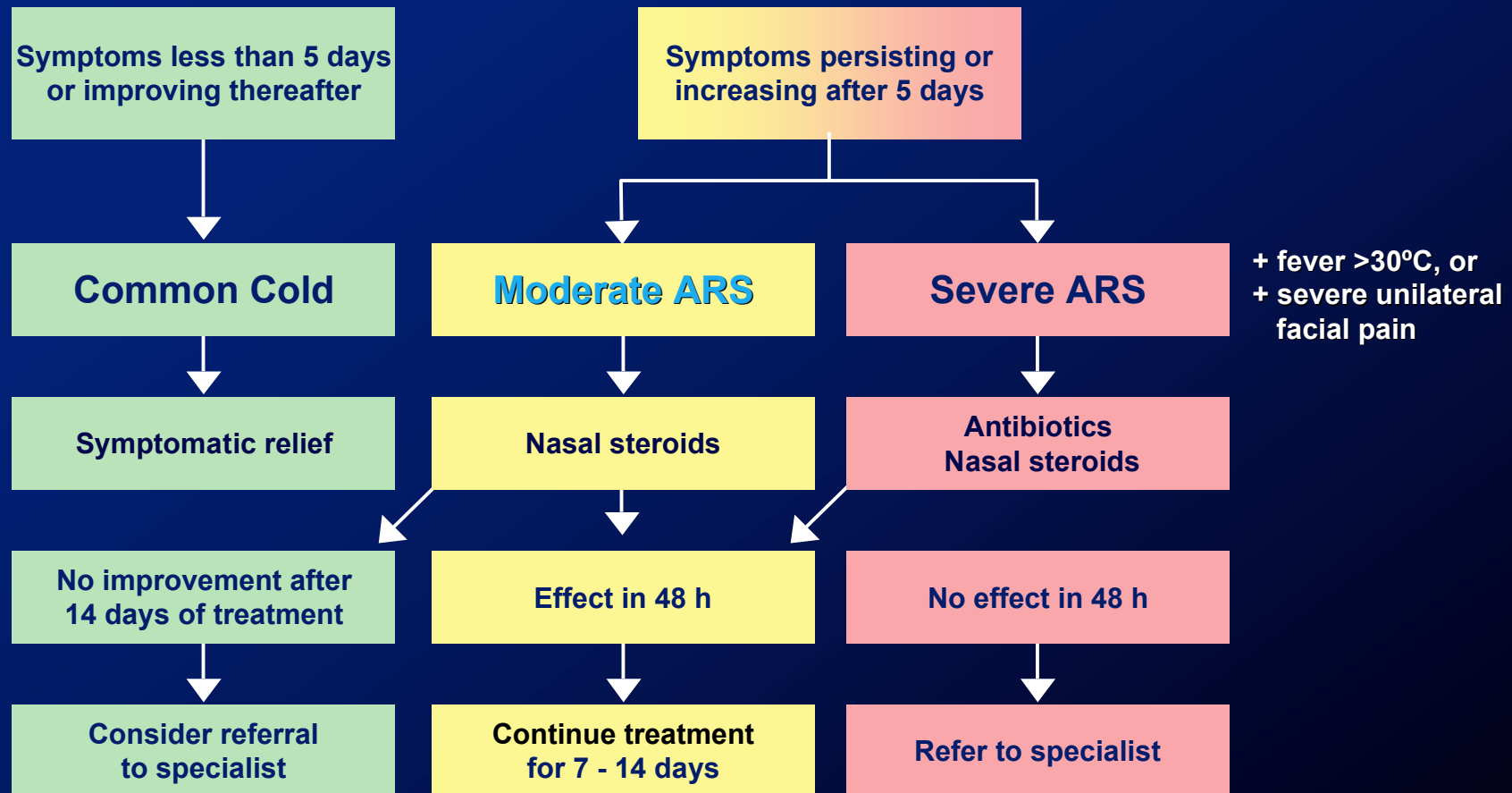


# Diagnosis

- What is the diagnosis for Ms. NPA ?
  - Moderate acute rhinosinusitis



# Acute rhinosinusitis: management scheme



Fokkens W, Lund V, Mullol J, et al. *Rhinology* 2007 (Suppl 20): 1-136.  
[www.ep3os.org](http://www.ep3os.org)

# Treatment: moderate acute RS

- Doctor recommends treatment with a nasal topical corticosteroid (mometasone spray, 200 µg / 12 hr), during at least 2 weeks
  - Very effective to reduce nasal symptoms and to improve quality of life
  - To teach a correct technique of administration is needed
- Saline nasal lavages were also recommended
- An antihistamine (DL 5 mg daily) is also recommended, for the potential impact of allergy

# Follow-up

- Ms. NPA comes back for re-evaluation (allergy) after three months of the ARS episode
  - He did an adequate and continuous treatment for 3 weeks with INS, and the disease almost disappeared
- Most of symptoms (nasal congestion rhinorrhea, facial pressure) improved after two weeks of continuous treatment with nasal corticosteroid
- However, she reports now a persistent total loss of the sense of smell (anosmia).

# Differential diagnosis

- What is the diagnosis for Ms. NPA ?
  - Allergic rhinitis (platanus hispanicus? parietaria?)
  - Chronic rhinosinusitis with acute exacerbation
  - Post-infectious (viral) anosmia
  - Other cause of the loss of smell

# Diagnosis: skin Prick test



Positive to :

- plane three
- parietaria





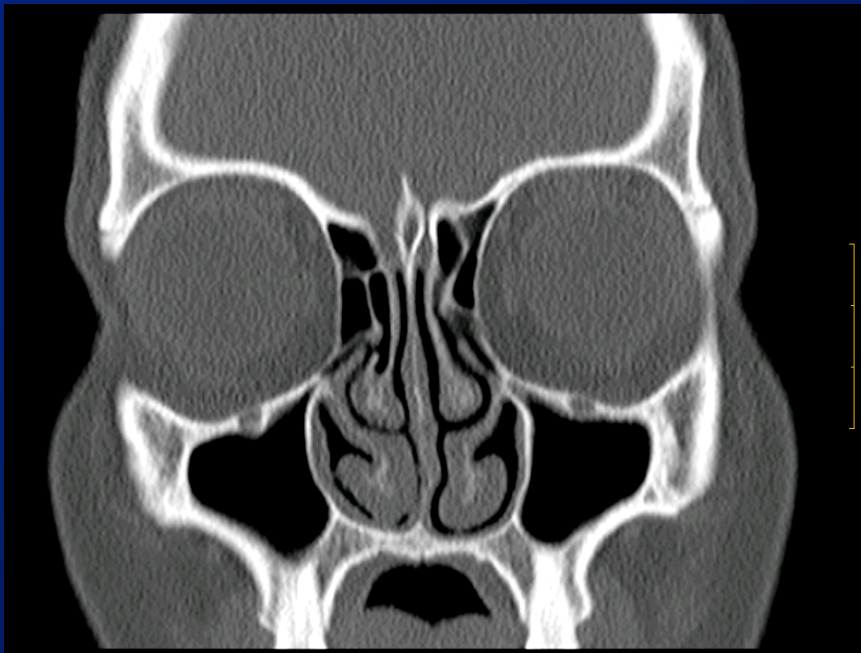
# Diagnosis: smell test (BAST-24)



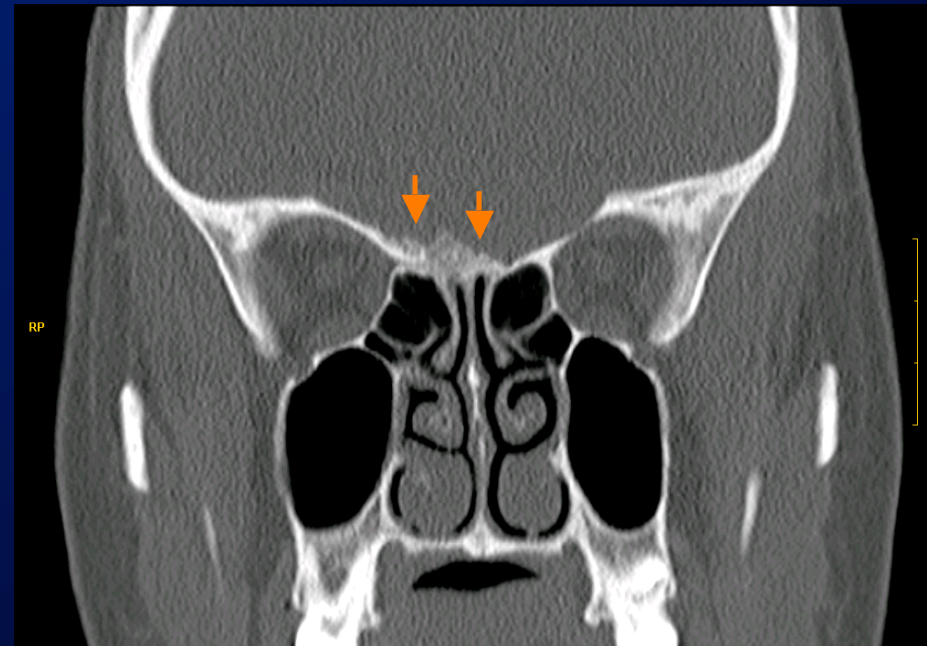
- detection 0%
- memory 0%
- identification 0%

# Diagnosis: CT scan

normal images



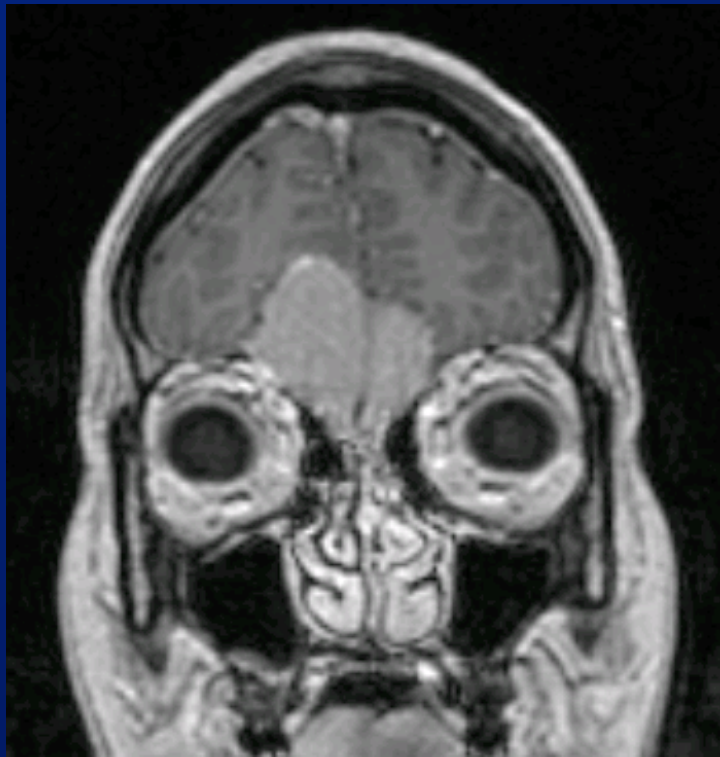
suspicious image



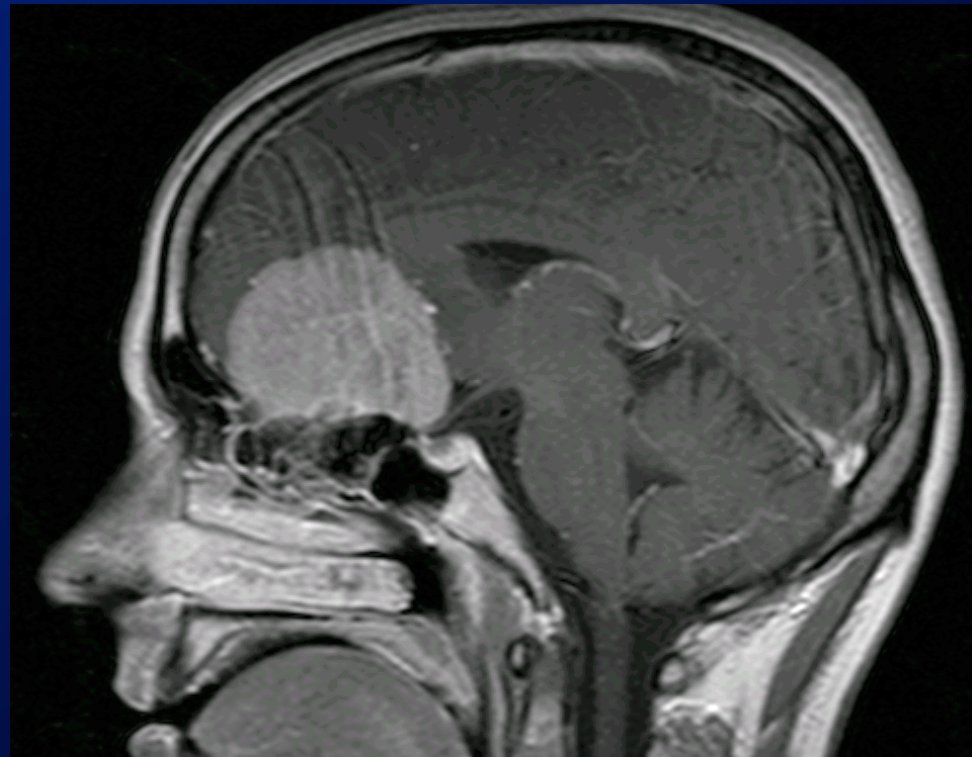


# Diagnosis by MRI: Olfactory meningioma

coronal view



sagittal view





# Final Diagnosis

1. Intermittent allergic rhinitis
2. Moderate acute rhinosinusitis
3. Olfactory meningioma

# Messages to take home

- Upper airway viral infection, together with sinonasal inflammation, and traumatic brain injury (TBI), is one of the main causes of the loss of smell.
- All patient with post-infectious anosmia should be further investigated for other potential causes of anosmia: CRS  $\pm$  nasal polyps, meningiomas, etc.
- Partial or total loss of smell may be due to a single cause or, in some cases, to several comorbidities affecting the olfactory neuroepithelium.