Case Study

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

Joaquim Mullol, MD, PhD
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 rhinorrea, and sneezing
  – After a week, facial maxillary pressure, purulent rhinorrea, 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 rhinorrea 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

www.ep3os.org
Acute rhinosinusitis: clinical definition

www.ep3os.org
Nasal examination: rhinoscopy, endoscopy
Diagnosis

• What is the diagnosis for Ms. NPA?
  – Moderate acute rhinosinusitis
Acute rhinosinusitis: management scheme

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 rhinorrea, 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

sagital 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 ± nasal polyps, meningiomas, etc.

• Partial or total loss of smell may by due to a single cause or, in some cases, to several comorbidities affecting the olfactory neuroepithelium.