

NASAL SEPTAL ABSCESS

Written by Catherine Irungu

Background information

Definitions of levels of care (in this guideline)

- Level 1: Community healthcare worker/non-doctor
- Level 2: Medical doctor
- Level 3: ENT Surgeon

Nasal septal abscess is an uncommon condition. It is characterized by the collection of pus between the cartilaginous or bony nasal septum and the overlying mucoperichondrium or mucoperiosteum respectively. They mostly occur as a consequence of a septal haematoma but may also occur spontaneously or secondary to a sinonasal infection or a nasogastric tube. The cartilaginous septum receives its blood supply from the overlying mucous membrane and these vessels pierce the mucoperichondrium. Trauma leading to submucosal haematoma formation is usually the precursor to the abscess formation. Within 72 hours, the haematoma can become infected with pus formation. Separation of the mucoperichondrium from the cartilaginous septum bilaterally results in the disruption of its blood supply resulting in avascular necrosis and resorption. Septal abscesses are more common in children and males. The patient may present with fever, nasal obstruction, pain, frontal headache and enlargement of the submandibular lymph nodes. The anterior cartilaginous septum is most commonly involved. Potential complications of a nasal septal abscess include septal perforation, facial cellulitis, saddle deformity due to cartilage necrosis, sinusitis, orbital cellulitis, meningitis, brain abscess and cavernous sinus thrombophlebitis.

Examination

Don a pair of clean gloves, an apron or gown, a surgical face mask and eye protection if available. A headlight is preferable as it allows one to use both hands to examine but a torch or lamp can be used as well. Equipment should include nasal dressing forceps and a nasal speculum.

General:

- Examine for signs of infection (fever, malaise)
- Examine for redness, swelling of the nose, fluctuance, tenderness and congestion

Level 1:

- Examine for nasal septal swelling, fluctuance, tenderness and congestion. A headlight, torch or lamp may be used.

Level 2:

- Anterior rhinoscopy may be performed to evaluate the nasal septal swelling.

Management

General:

- Analgesia, antipyretics and antibiotics should be administered.
- Fine needle aspiration may be attempted for a localised abscess
- Incision and drainage should be performed if the abscess persists after needle aspiration, if there is recurrence or if there is evidence of septal cartilaginous destruction
- Computed tomography scanning may be useful in demonstrating cartilaginous destruction
- Broad spectrum antibiotic cover should be instituted empirically while awaiting culture and sensitivity results.

Level 1:

- Fine needle aspiration can be attempted to confirm diagnosis
- Analgesia and broad spectrum antibiotics should be administered prior to referral to the next level of facility

Level 2:

- Incision and drainage should be performed on confirming diagnosis. Incision should be at the dependent part of the abscess. Pus swab collected should be sent for culture and sensitivity.
- Analgesia and broad spectrum antibiotics should be administered prior to referral to the next level of facility

Level 3:

- Incision and drainage should be performed on confirming diagnosis. Incision should be at the dependent part of the abscess. Pus swab collected should be sent for culture and sensitivity. A penrose drain should be applied if cartilaginous loss is present. An anterior nasal pack should be applied to tamponade the mucosa against the septum
- Analgesia, antipyretics and antibiotics should be administered
- Any necrosed cartilage should be removed via suction. If there is extensive cartilage necrosis, nasal deformity may occur requiring revision in the future.

Further reading

1. Probst, R., Grevers, G., Iro, H., Waldfahrer, F., Rosanowski, F., & Eysholdt, U. (2018). *Basic otorhinolaryngology: A step-by-step learning guide*.
2. Bluestone, C. D., Simons, J. P., & Healy, G. B. (2014). *Bluestone and Stool's pediatric otolaryngology*. Shelton, Conn: People's Med. Publ. House.
3. Ferri, F. F., & Ferri, F. F. (2020). *Ferri's clinical advisor 2020: 5 books in 1*.

4. Jenkins, J. L., & Braen, G. R. (2015). *Manual of Emergency Medicine*. Philadelphia: Wolters Kluwer.
5. Dhingra, P. L., & Dhingra, S. (2014). *Diseases of ear, nose and throat & head and neck surgery*.