MISCELLANEOUS DISORDERS OF NASAL CAVITY

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PIMS

FOREIGN BODIES :

Aetiolgy :

- Mostly seen in children
- Organic or inorganic
- Pieces of paper, chalk, button, pebbles and seeds.
- Pledgets of cotton or swabs may be accidentally left in the nose.

Clinical features :

- May present immediately if the history of foreign body is known.
- If a child presents with unilateral, foul-smelling nasal discharge, foreign body must be excluded.
- Occasionally, a radiograph of the nose to confirm and localise a foreign body if it is radio-opaque.

Treatment :

- Pieces of paper or cotton swabs can be easily removed with a pair of forceps.
- Rounded foreign bodies can be removed by passing a blunt hook past the foreign body and gently dragging it forward along the floor.
- In babies and uncooperative children, general anaesthesia with cuffed endotracheal tube is used. Patient is placed in Rose's position, a pack is inserted into the nasopharynx and the foreign body retrieved with a forceps or a hook.

Complications : A foreign body left in the nose may result in :

i) Nasal infection and sinusitis

ii) Rhinolith formation

iii) Inhalation into, the tracheobronchial tree

RHINOLITH :

Aetiology :

- Stone formation in the nasal cavity.
- A rhinolith usually forms around the nucleus of a small exogenous foreign body, blood clot or inspissated secretion by slow deposition of calcium and magnesium salts.
- It grows into a large irregular mass.
- May cause pressure necrosis of the septum and/or lateral wall of nose.

Clinical features :

- More common in adults
- Unilateral nasal obstruction and foul-smelling discharge, blood-stained.
- Frank epistaxis and neuralgic pain from ulceration of the surrounding mucosa.

On examination

- A grey brown or greenish black mass with irregular surface and stony hard feel in the nasal cavity.

Treatment :

- Removed under general anaesthesia.
- Some particularly hard and irregular ones, require lateral rhinotomy.

NASAL MYIASIS (MAGGOTS IN NOSE) :

- Maggots are larval forms of flies.
- Infest nose, nasopharynx and paranasal sinuses causing extensive destruction.
- Flies, of the genus chrysomia, attracted by the foul smelling discharge emanating from cases of atrophic rhinitis, syphilis, leprosy or infected wounds and lay eggs.
- Within 24 hours hatch into larvae.

Clinical features :

- First 3 or 4 days maggots produce intense irritation, sneezing lacrimation and headache.
- Thin blood-stained discharge.
- Eyelids and lips become puffy.

A

B

Fig. 30.2 (A) The maggot, (B) The fly responsible for maggots.

- On the 3rd or 4th day maggots crawl out of the nose. Patient has foul smell surrounding him.
- Cause extensive destruction to nose, sinuses, soft tissue of face, palate and the eyeball.
- Death from meningitis.

Treatment :

- Visible maggots should be picked up with forceps.
- Instillation of chloroform water.
- A patient with maggots should be isolated with a mosquito net to avoid contact with files.
- Instruction for nasal hygiene.

NASAL SYNAECHIA :

- Adhesion formation between the nasal septum and turbinates.
- Result of injury to opposing surfaces of nasal mucosa.
- Result from intranasal operations such as septal surgery, polypectomy, removal of foreign bodies, reduction of nasal fractures or even intra-nasal packing.
- Severe infections which cause ulcerative lesions in the nose.
- Nasal synaechia cause nasal obstruction.
- Impede drainage from the sinuses resulting in sinusitis, headache and nasal discharge.

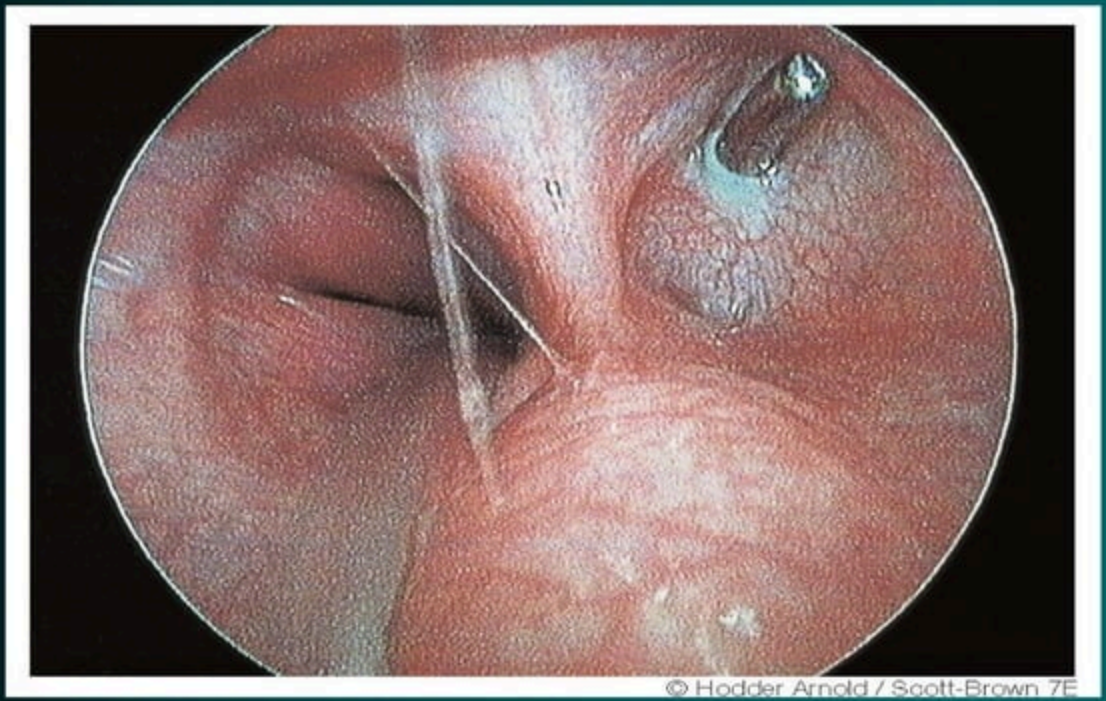
Treatment :

- Removal of synaechia and prevention of the opposing raw surfaces to come into contact with each other by placing a thin silastic or a cellophane sheet between them.

CHOANAL ATRESIA :

- Due to persistence of bucconasal membrane.
- Unilateral or bilateral
- Complete or incomplete.
- Bony (90%) or membranous (10%).
- Unilateral atresia more common may remain undiagnosed until adult life.
- Bilateral atresia presents with respiratory obstruction at birth.

CHOANAL ATRESIA



Diagnosis :

- Mucoid discharge in the nose.
- Absence of air bubbles in the nasal discharge.
- Failure to pass a catheter from nose to pharynx.
- Putting a few drops of a dye (methylene-blue) into the nose and seeing its passage into the pharynx.
- Installing radio-opaque dye into the nose and taking a lateral film.
- A feeding nipple with a large hole provides a good oral airway (McGovern's technique).
- Definitive treatment: correction of atresia by transnasal or transpalatal approach.

CSF RHINORRHOEA :

Aetiology :

i) **Traumatic :** Head injuries, surgery of frontal, ethmoid or sphenoid sinus or hypophysectomy. Complication of endoscopic sinus surgery.

ii) **Tumours :** Tumours of the pituitary or the olfactory bulb.

iii) Congenital defects in skull.

iv) Spontaneous type.

Sites of leakage :

- CSF from anterior cranial fossa reaches the nose by way of cribriform plate, ethmoid air cells or frontal sinus.
- CSF from middle cranial fossa reaches the nose via sphenoid sinus.

Diagnosis :

- Dribbling of clear fluid from the nose on bending or straining.
- Discharge is clear and watery, appears suddenly in a gush of drops when bending forward or straining, is uncontrollable and cannot be sniffed back.
- No associated sneezing, nasal congestion or lacrimation.
- CSF contains glucose which can be demonstrated by oxidase-peroxidase paper strip or bicohemical tests.

$\forall \beta_2$ transferrin is specific for CSF.

Differences between CSF and nasal secretions

	CSF fluid	Nasal secretion
History	Nasal or sinus surgery, head injury or intracranial tumour	Sneezing, nasal stuffiness, itching in the nose or lacrimation.
Flow of discharge	A few drops or a stream of fluid gushes drown when bending forward or straining; cannot be sniffed back.	Continuous, No effect of bending forward or straining. Can be sniffed back.
Character of discharge	Thin, watery and clear	Slimy (mucus) or clear (fears)
Sugar content	More than 30 mg/dl	Less than 10 mg/dl
Presence of β_2 transferrin	Always present. It is specific for CSF	Always absent

Localisation of CSF leak :

- Intrathecal injection of a dye (fluorescein 5%, 1 ml) or a radioisotope and placing pledgets of cotton in the olfactory slit, middle meatus, sphenoethmoidal recess and near the eustachian tube and examining the pledgets for dye or radioactivity.

Olfactory slit	→	Cribriform plate
Middle meatus	→	Frontal or ethmoid sinuses
Sphenoethmoidal recess	→	Sphenoid sinus
Inferior meatus near the eustachian tube	→	Temporal bone

- Site of leak can be determined by high resolution, thin section coronal cuts with bone window.

- CT cisternogram : in this procedure, CT scan is combined with injection of a contrast material into intrathecal space via cisterna magna.
- MRI with T_2-weighted images or MRI cisternography is more useful.
- In traumatic CSF leak, when CSF and blood are mixed, *double ring sign* (or target sign): In this sign, discharge collected on a piece of filterpaper shows a central spot of blood while CSF spreads out like a halo around it.

Treatment :

- Placing the patient in the semi-sitting position, avoiding blowing of nose, sneezing and straining. Prophylactic antibiotics.
- Persistent cases of CSF rhinorrhoea are treated surgically by nasal endoscopic or intracranial appraoch.