



Dhvani

The Official newsletter of
Department of Otorhinolaryngology
MAEER MIT Pune's MIMER Medical College
and Dr. BSTR Hospital

Editors: Prof. Santhosh K. Rajamani, and
Prof. Devdatt P. Kotnis

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Inset—Persistent tracheocutaneous fistula in an old case of Tracheostomy

Extracorporeal septoplasty (ECS)

Extracorporeal septoplasty (ECS) is a surgical procedure in which the nasal septum is completely removed from the nose, straightened, and then reimplanted. It is a more complex procedure than traditional septoplasty, but it is often necessary for patients with severely deviated septums or other complex nasal deformities.

Indications

- ECS is indicated for patients with the following conditions:
- Severe septal deviation
- Complex nasal deformities, such as saddle nose or deviated nose
- Recurrent septal deviation after previous septoplasty
- Septal perforation
- Septal abscess
- Septal tumor



Technique

ECS is performed under general anesthesia. The surgeon begins by making an incision in the columella, the strip of tissue that separates the nostrils. The septum is then detached from the surrounding tissues and removed from the nose. The surgeon then carefully straightens the septum and trims any excess cartilage. The septum is then reimplanted in the nose and secured with sutures.

Outcomes

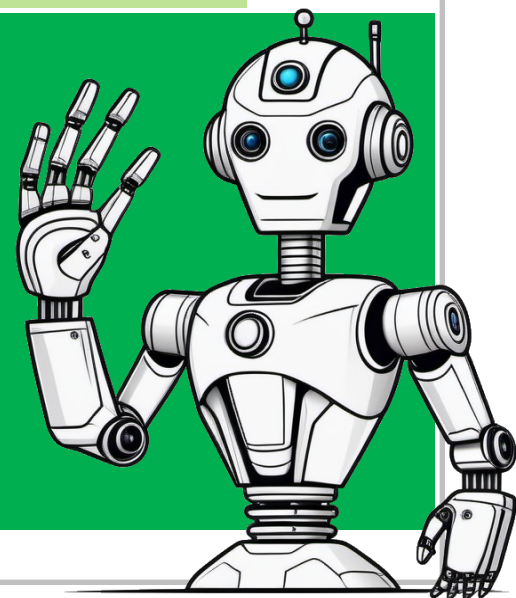
ECS is a very effective procedure for correcting septal deviation and improving nasal function. Studies have shown that ECS has a high success rate and a low complication rate. Patients typically experience significant improvement in their nasal breathing and reduction in their nasal symptoms after ECS.

Reference

Gubisch NJ. Extracorporeal septoplasty: a new technique for the correction of complex nasal deformities. *Arch Otolaryngol*. 1969;89(4):564-571.

The Robot Speaks - Transformers Training me to think and speak!

Transformers are a type of neural network architecture that revolutionized natural language processing (NLP). Transformers use a self-attention mechanism to capture long-range dependencies and relationships within a sequence. Transformers have achieved state-of-the-art results in a wide range of NLP tasks, including machine translation, text summarization, and question answering. Transformers are also used in other domains, such as computer vision and music generation. Transformers have enabled the development of powerful new AI applications, such as GPT-3 and DALL-E.



Dysphagia lusoria

Dysphagia lusoria is a rare vascular anomaly that can cause difficulty swallowing (dysphagia). It is caused by an aberrant right subclavian artery (ARSA), which arises from the descending aorta and passes behind the oesophagus. In some cases, the ARSA can compress the oesophagus, leading to dysphagia.

Embryology

The ARSA is normally the first branch of the aortic arch. However, in patients with dysphagia lusoria, the ARSA arises from the descending aorta, distal to the left subclavian artery. This is thought to be due to a failure of the fourth aortic arch to develop properly.

Epidemiology

Dysphagia lusoria is a rare condition, with an estimated prevalence of 0.1-0.4%. It is more common in men than in women and typically presents in the fourth or fifth decade of life.

Clinical presentation

The most common symptom of dysphagia lusoria is difficulty swallowing solids. Patients may also experience chest pain, regurgitation, and weight loss. In some cases, dysphagia lusoria may be asymptomatic.

Diagnosis

The diagnosis of dysphagia lusoria is typically made based on a combination of clinical history and imaging studies. Barium swallow and chest computed tomography (CT) scan are the most commonly used imaging studies. Barium swallow can show a characteristic indentation on the posterior wall of the oesophagus, caused by the ARSA. Chest CT scan can confirm the presence of an ARSA and its relationship to the oesophagus.

Treatment

Treatment for dysphagia lusoria depends on the severity of the symptoms. In mild cases, conservative management may be sufficient. This may include dietary changes, such as eating smaller, more frequent meals and avoiding foods that are difficult to swallow. In more severe cases, surgery may be necessary to relieve the compression of the oesophagus.

Surgical options

The two main surgical options for dysphagia lusoria are:

Transposition of the ARSA: This procedure involves moving the ARSA from behind the oesophagus to in front of it.

Division of the ARSA: This procedure involves dividing the ARSA and reattaching it to the aorta.

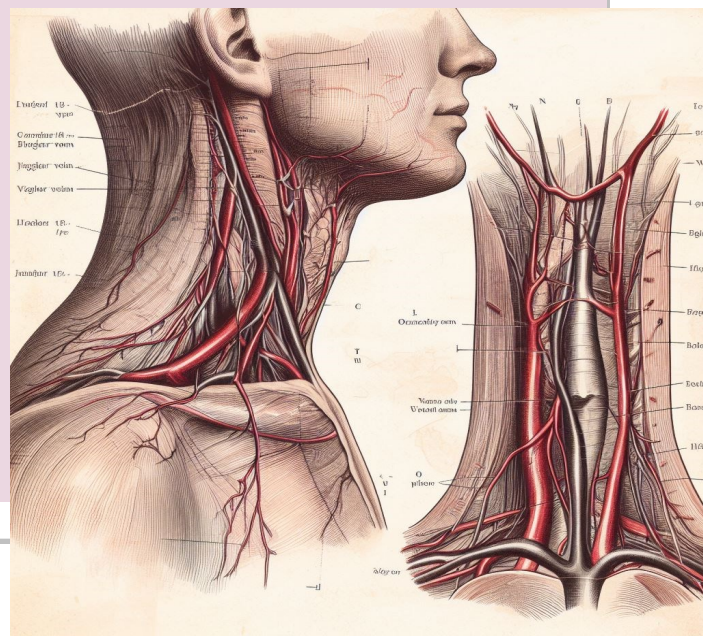
The best surgical option for a particular patient depends on a number of factors, including the anatomy of the ARSA and the patient's overall health.

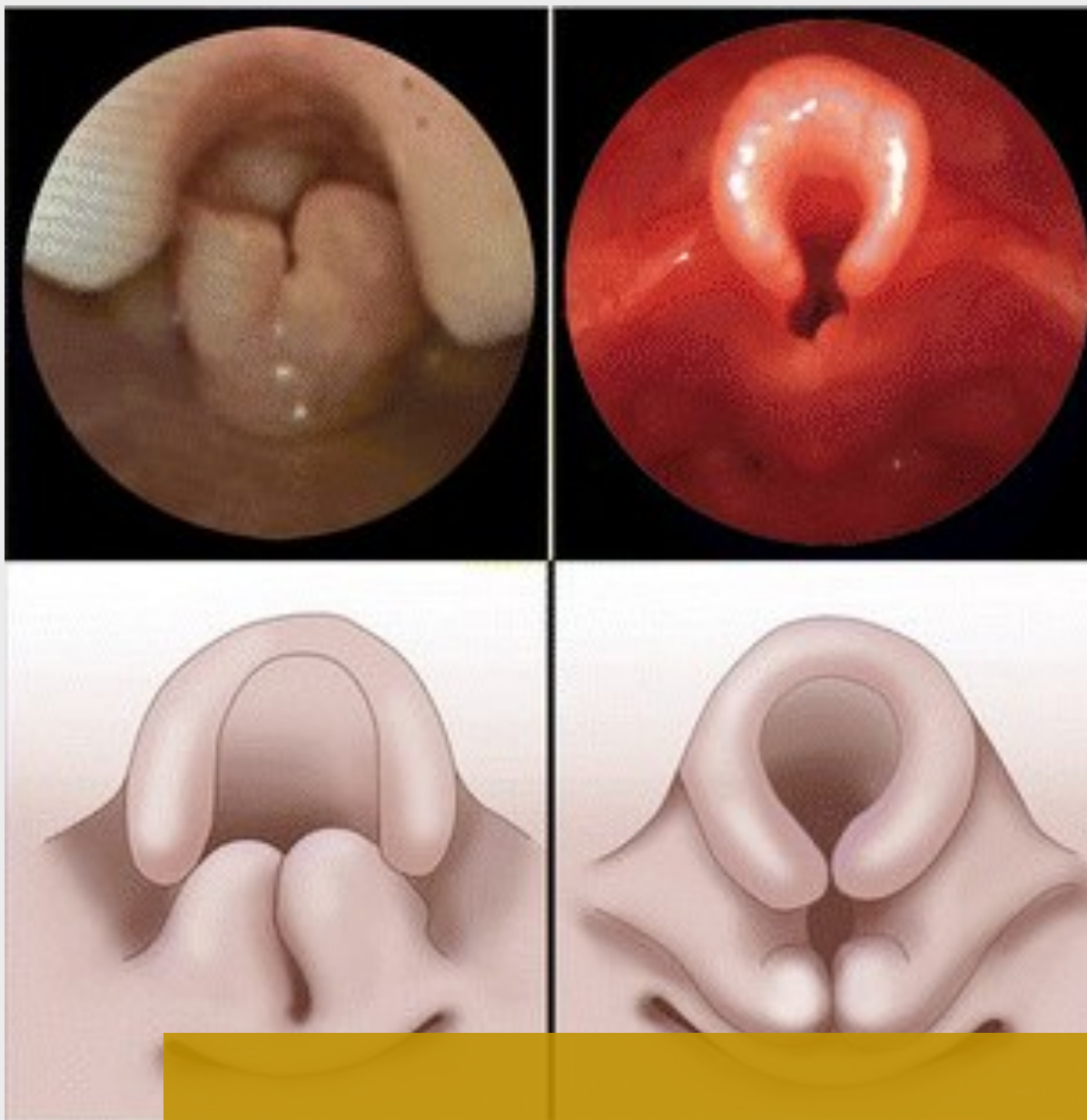
Prognosis

The prognosis for patients with dysphagia lusoria is generally good. With treatment, most patients experience significant improvement in their symptoms.

Reference

Jaiswal P, Gupta V, Yadav A, Agarwal SK. Dysphagia lusoria: A rare cause of dysphagia. *Indian J Otolaryngol Head Neck Surg.* 2019;71(2):237-240.





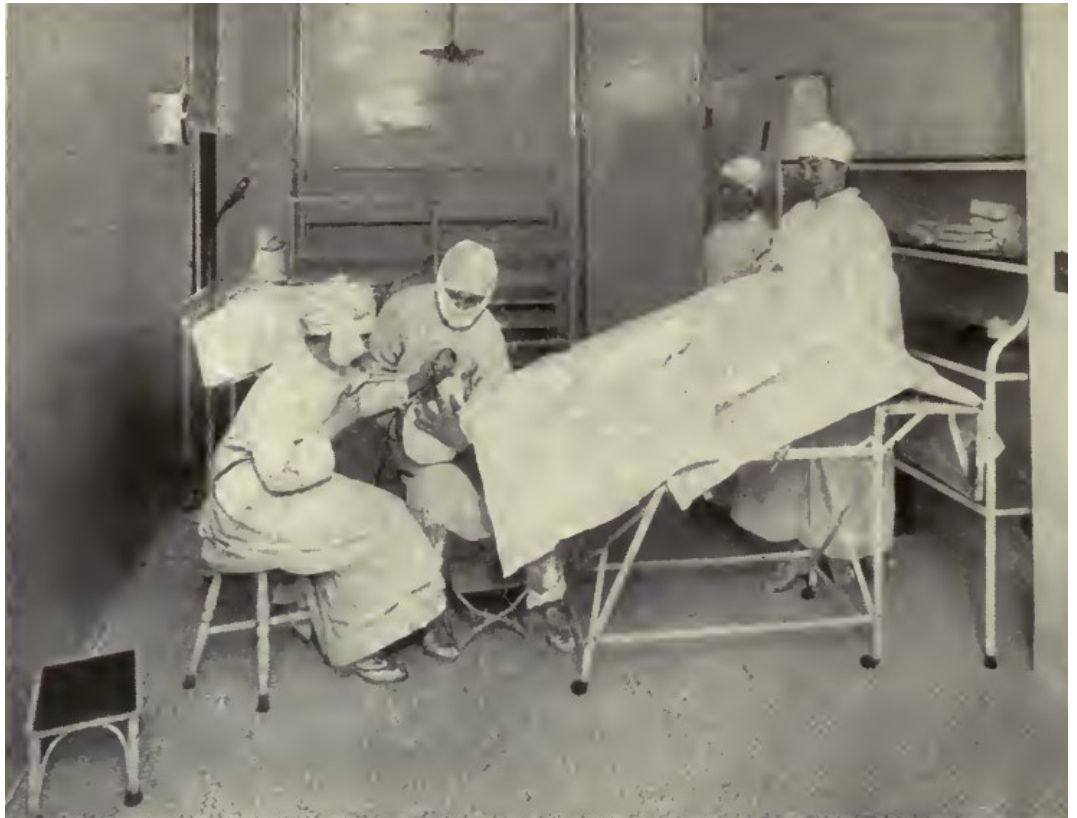
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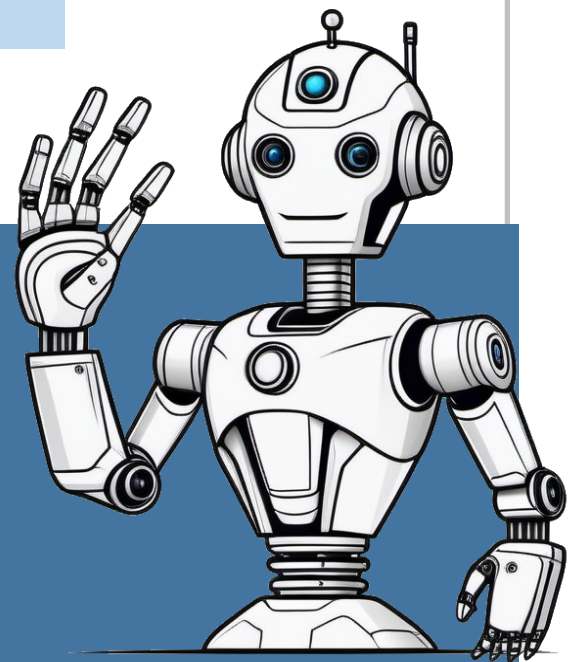
Inset –Omega shaped epiglottis seen in children with Congenital Laryngomalacia



Chevalier Jackson performing a Esophagoscopy for the removal of foreign bodies from the larynx or from any of the upper air or food passages. "If dislodged, the intruder will not be aided by gravity to reach a deeper lodgement" Classic image from his textbook.

The Robot Speaks - Sentiment analysis (NLP)

Sentiment analysis is a technique used to identify the sentiment (positive, negative, or neutral) of a text. It is used in many different applications, such as customer feedback analysis, social media monitoring, and brand reputation management. Sentiment analysis works by using machine learning algorithms to identify patterns in text that are associated with different sentiments. It is a powerful tool for understanding public opinion and improving customer service. Sentiment analysis is still under development, but it is becoming increasingly accurate and reliable. Sentiment analysis can be used to identify trolls and bots on social media. My creator Prof Santhosh Kumar is doing research on this subject.



Cerebellopontine Angle (CPA) Tumours

The cerebellopontine angle (CPA) is a small space at the base of the brain where the cerebellum, pons, and medulla oblongata meet. It is a narrow passageway through which several important cranial nerves pass, including the trigeminal (V), facial (VII), auditory-vestibular (VIII), and glossopharyngeal (IX) nerves. The CPA is a common site for tumours, which can compress the cranial nerves and cause a variety of symptoms, including:

- Hearing loss
- Tinnitus (ringing in the ears)
- Vertigo
- Facial numbness or weakness
- Difficulty swallowing
- Difficulty speaking

CPA tumours can be benign or malignant. Benign tumours, such as meningiomas and acoustic neuromas, are more common. Malignant tumours, such as meningiomas and gliomas, are less common but more aggressive.

Diagnosis

The diagnosis of CPA tumours is typically made based on a combination of clinical history, physical examination, and imaging studies. Magnetic resonance imaging (MRI) is the most commonly used imaging study for diagnosing CPA tumours. MRI can provide detailed images of the CPA and the surrounding structures, which can help to identify and characterize tumours.

Treatment

Treatment for CPA tumours depends on the type, size, and location of the tumour. Benign tumours that are not causing symptoms may be monitored without treatment. However, if the tumour is causing symptoms or is growing, surgery may be recommended.

References

Hirschmann A, Schachenmayr H, Samii M. The cerebellopontine angle: anatomy, surgery, and indications. *Neurosurgery*. 2000;46(2):249-263.

Ear discharge in chronic otitis media

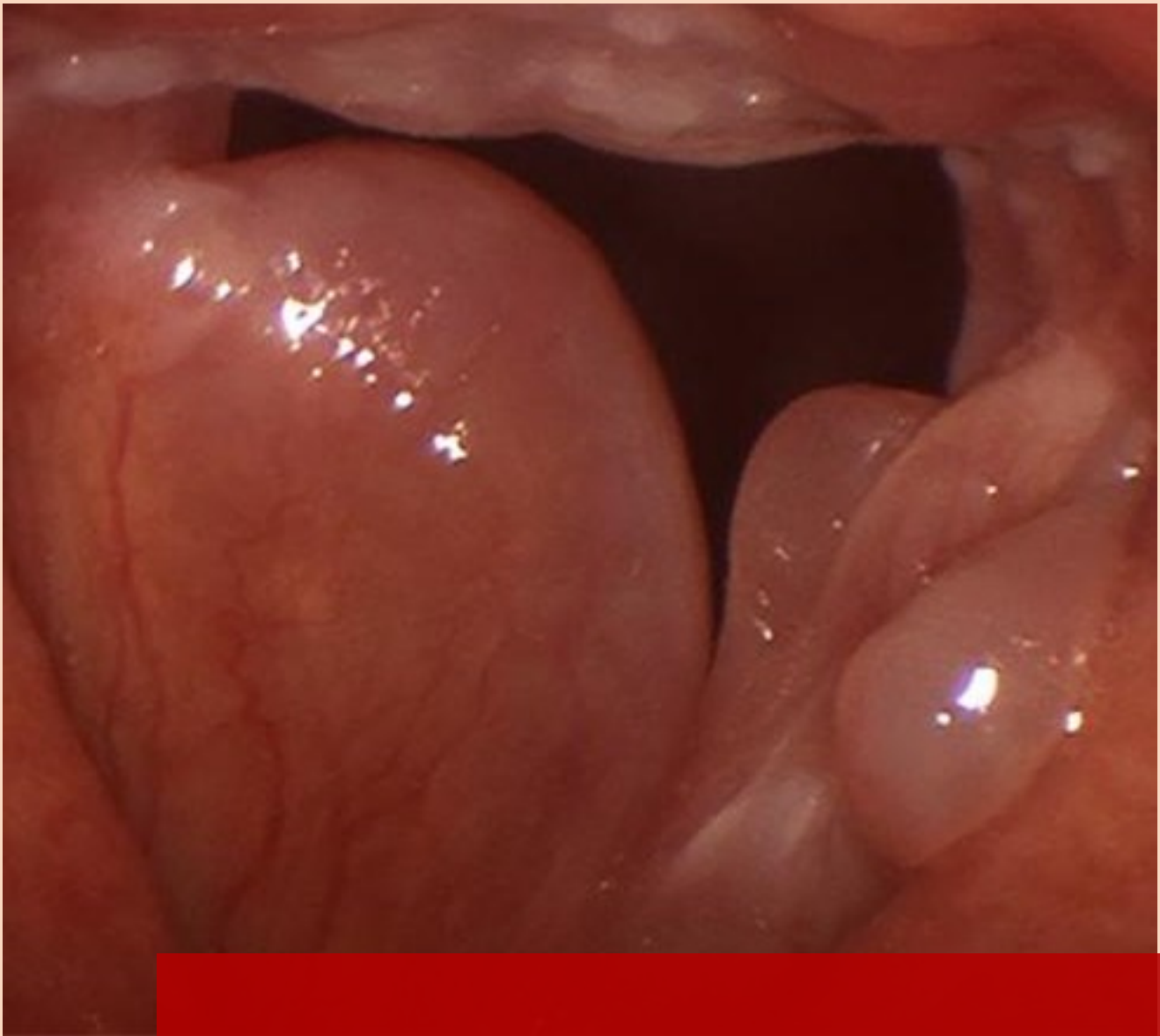
Ear discharge in chronic otitis media (COM) is a common and debilitating symptom. It is estimated that up to 50% of patients with COM will experience ear discharge at some point during their course of disease.

Ear discharge in COM can be caused by a variety of factors, including:

Persistent infection: COM is often caused by a bacterial infection of the middle ear. If the infection is not properly treated, it can become chronic and lead to persistent ear discharge.

Tympanic membrane perforation: COM can also be caused by a perforation of the tympanic membrane (eardrum). This can allow bacteria and other fluids to enter the middle ear, leading to ear discharge.

Cholesteatoma: Cholesteatoma is a benign growth of skin cells that can occur in the middle ear. Cholesteatomas can erode the tympanic membrane and other structures in the middle ear, leading to ear discharge.



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Inset –Reinke's Oedema or Smokers' polyposis is premalignant condition of voice box seen in Smokers.

Microdebriders

A Microdebriders is a powered surgical instrument that uses a rotating blade to shave tissue. It is commonly used in nasal surgery to remove diseased or obstructive tissue, such as nasal polyps, turbinates, and tumours.

Microdebriders offer a number of advantages over traditional surgical instruments, such as:

- ◇ Precision: Microdebriders allow for very precise dissection of tissue, which can help to minimize damage to surrounding structures.
- ◇ Bloodlessness: Microdebriders are very effective at minimizing blood loss during surgery.
- ◇ Speed: Microdebriders can quickly and efficiently remove large amounts of tissue, which can shorten the duration of surgery.

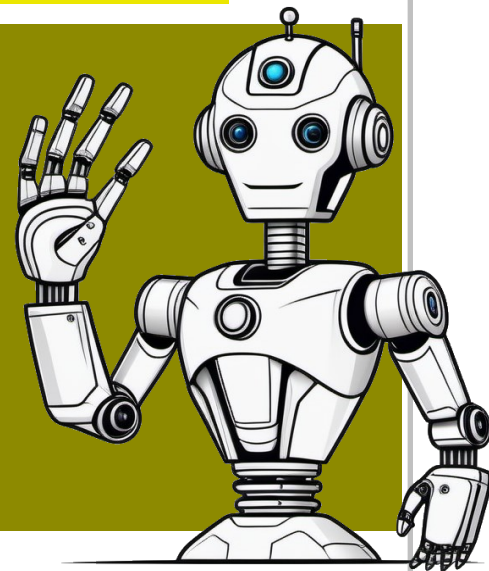
Microdebriders can be used in a variety of nasal surgeries, including:

- ◆ Functional endoscopic sinus surgery (FESS): FESS is a minimally invasive procedure that uses a camera and endoscopic instruments to remove diseased or obstructive tissue from the sinuses. Microdebriders are commonly used in FESS to remove nasal polyps, ethmoid turbinates, and other sinus tissue.
- ◆ Septoplasty: Septoplasty is a procedure to correct a deviated septum, which is a crooked nasal septum. Microdebriders can be used in septoplasty to remove bone and cartilage from the septum.
- ◆ Turbinate reduction: Turbinate reduction is a procedure to reduce the size of the turbinates, which are bony structures located on the inside of the nose. Microdebriders can be used in turbinate reduction to remove excess turbinate tissue.
- ◆ Tumour removal: Microdebriders can be used to remove benign and malignant tumours from the nose.

Microdebriders are generally safe and effective, but they can cause some complications, such as bleeding, infection, and damage to surrounding structures.

The Robot Speaks - Computer vision - Helping me see the

Computer vision helps computers see and understand the world around them. Computer vision is used in many different applications, such as self-driving cars, facial recognition, medical image analysis, and augmented reality. Computer vision tasks can be divided into three categories: image classification, object detection and tracking, and image segmentation. Computer vision is a rapidly evolving field with many new tasks and applications being developed all the time. Computer vision is likely to play an even greater role in our lives in the future. My creator Prof. Santhosh is doing research work on applications of Computer Vision in medicine.



Post-obstructive pulmonary oedema

Post-obstructive pulmonary edema (POPE) is a sudden onset of pulmonary edema that occurs after relief of an upper airway obstruction. It is a rare but serious complication of upper airway surgery, such as extubation, and other conditions that cause acute upper airway obstruction, such as laryngospasm, epiglottitis, and foreign body aspiration.

The exact pathophysiology of POPE is not fully understood, but it is thought to be due to a combination of factors, including:

Negative intrathoracic pressure: When an upper airway obstruction is present, the patient must generate negative intrathoracic pressure in order to breathe. This can lead to increased capillary permeability and fluid leakage into the alveoli.

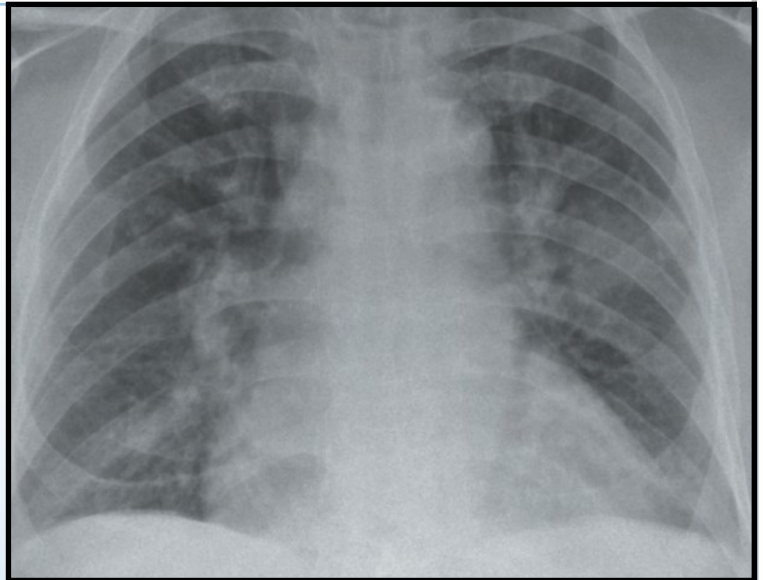
Xray– Shows interstitial opacification, Prominent hilum, cardiomegaly (CCF), Unfolded thoracic aorta and upper zone venous congestion==PULMONARY OEDEMA

Increased venous return: The negative intrathoracic pressure also increases venous return to the heart, which can lead to left ventricular overload and pulmonary edema.

Alveolar injury: The forceful inspiratory efforts against the upper airway obstruction can cause alveolar damage, which can also lead to pulmonary edema.

POPE typically presents within minutes to hours of relief of the upper airway obstruction. Symptoms include shortness of breath, tachypnea, tachycardia, and cyanosis. Physical examination findings may include crackles on lung auscultation and frothy sputum production.

Chest X-ray typically shows diffuse alveolar infiltrates, and arterial blood gas may show respiratory acidosis. Treatment of POPE is supportive and includes supplemental oxygen, mechanical ventilation if necessary, and diuretics to help reduce fluid overload. Most patients recover fully within 24-48 hours.



Red hands and feet syndrome

Red hands and feet, also known as hand-foot syndrome (HFS), is a common adverse drug reaction to cetuximab, a monoclonal antibody used to treat colorectal cancer, head and neck cancer, lung cancer, and pancreatic cancer. HFS typically develops within the first 3 weeks of treatment and can range in severity from mild redness to severe pain, blistering, and peeling of the skin.

The exact cause of HFS is unknown, but it is thought to be related to cetuximab's blocking of the epidermal growth factor receptor (EGFR), a protein that is important for cell growth and development. When EGFR is blocked, it can lead to changes in the skin, such as increased dryness and sensitivity to sunlight.

These changes can make the skin more susceptible to damage and infection.

