



Dropped Head
syndrome

Dropped head syndrome

- 84-year-old female with dropped head syndrome, right TVF paresis (unknown etiology), severe malnutrition, anxiety
- Does not want PEG
- Anxiety towards trying foods/consistencies
- Current foods: jello, tomato soup, tea, tapioca pudding, 3 cans of boost with straw, 2 egg yolks everyday, 3-4 cups of water each day
- Weight: 100 lbs

Dropped head syndrome

- Myopathy with severe weakness of neck extensors with milder weakness of shoulder and proximal arm muscles
- Progressive, complex & challenging
- Causes: Neuromuscular disorders (ALS, PD), Muscular disorders (myotonic dystrophy, IBM, MG), malignancy
- Rx: Physiotherapy, surgical correction (subaxial fusion, C2-T2)

Dropped head syndrome



Image rotated to show CP bar

Spinal cord glioma

- 57-year-old female presented to ENT on 3/1/18 with c/o hoarse voice (sudden onset, 2 months) and coughing while drinking liquids
- ENT impression: Right TVF paralysis, LPR
- H/O intramedullary spinal cord glioma s/p laminectomy and excision of glioma (age 13) followed by XRT

Spinal cord glioma

- Primary spinal cord tumors are 10 times less common than their cranial counterparts (Mechtler & Nandigam, 2013)
- Spine has “gray mater” which has cells called neurons and “white mater” which has cells called glial cells
- Glial cells come in different types and provide support
- Tumor of glial cells is called glioma
- No literature on long term effects of radiation on swallowing in this population

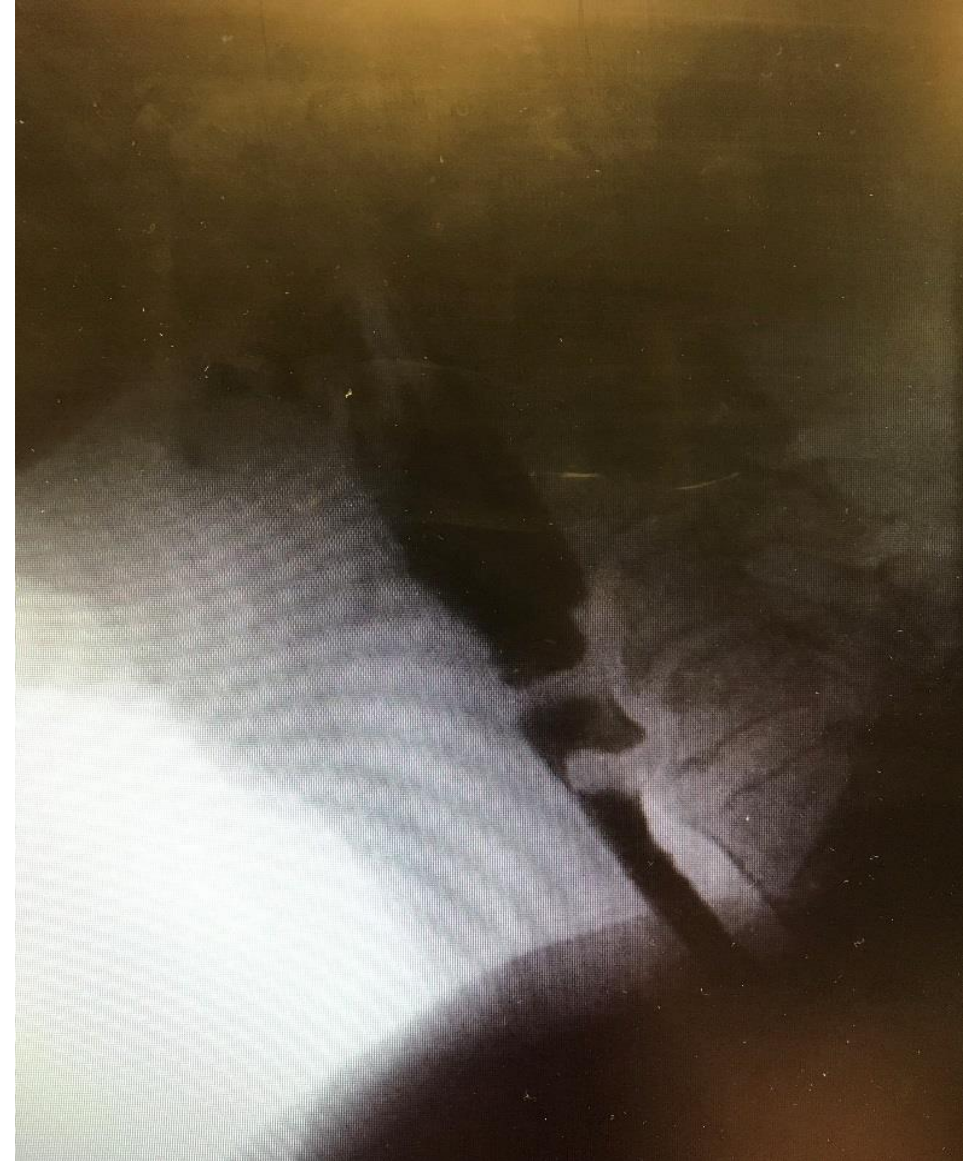
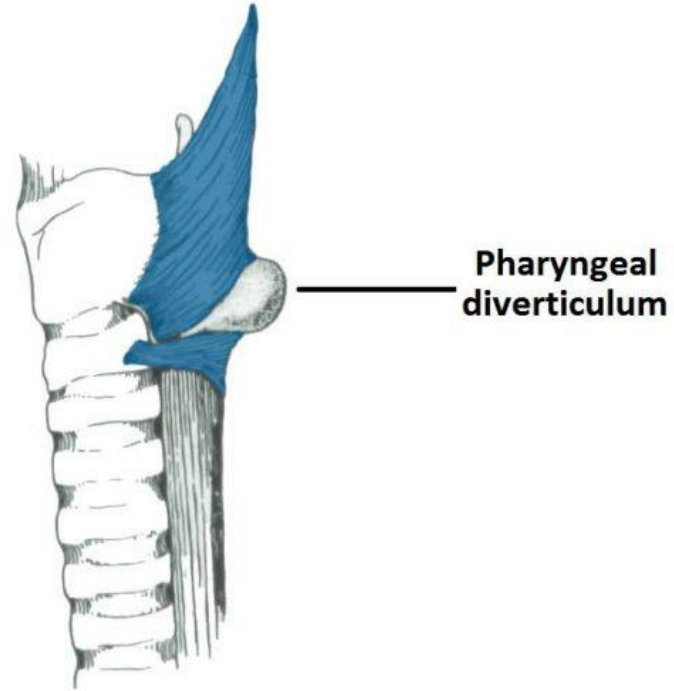
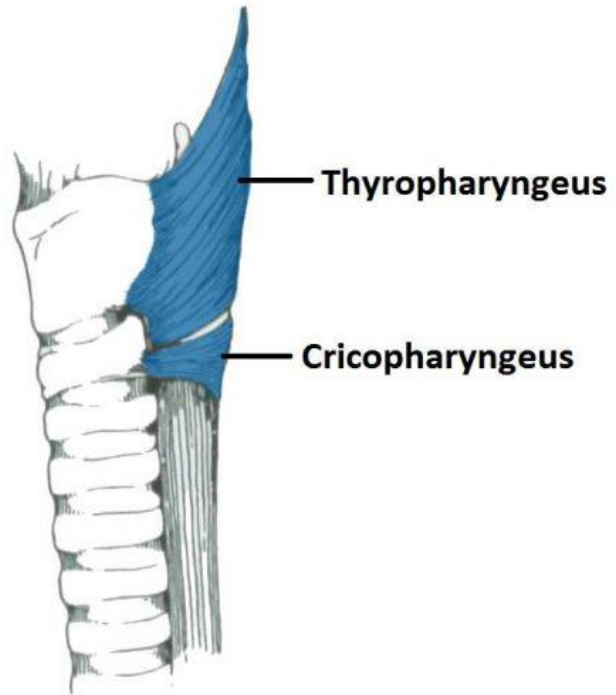
Spinal cord glioma

- Neurosurgery comments:
 - She has severe cervical kyphosis, however she is stable without new weakness
 - Would require an extensive anterior/posterior surgery to correct the curve that carries a large risk of paralysis
 - Conservative treatment for the right sided neck pain
 - Right true vocal fold paralysis is likely from the deformity in the C-spine curve; however, she can try treatment injections/surgery per ENT

Inclusion Body Myositis (IBM)

- 72-year-old female with h/o sarcoidosis, Intractable partial epilepsy, onset about age 10, GERD
- Onset of dysphagia: ~July 2015, gradual
 - Difficulty swallowing meats and dry foods
 - Getting worse
 - Currently medications, soft food are difficult
 - Reports “I do cough after swallowing.” and “I get tired with eating and have to stop in the middle” of the meal.

Inclusion Body Myositis (IBM)



Inclusion Body Myositis (IBM)

- Dilation of esophagus over a wire and injection of Botox into Cricopharyngeus (11/3/16)
 - Swallowing is improved, able to swallow pills and starches that she could not swallow previously. Still has some trouble with steak, but if foods are mashed, she does well. No longer coughs up her food.
- Diagnosed with IBM & Sarcoidosis (11/27/16)

Inclusion Body Myositis (IBM)

- Progressive weakening of selected muscle groups including the quadriceps, long forearm flexors and the muscles of the oropharynx
- IBM patients demonstrate the most severe and frequent dysphagia compared to other inflammatory myopathies
- 40-86% of patients with IBM have dysphagia (Houser et al., 1998)
- Evidence of aspiration on VFSS is high in IBM with figures ranging from 35% to 58% (Mohannak et al., 2019)

Inclusion Body Myositis (IBM)

- UES spasm as a result of hyperplasia or hypertrophy of the cricopharyngeus muscle
- Whilst the histology between the cricopharyngeal muscle and limb muscles are identical, the pathological outcome of the cricopharyngeal muscle is hyperplasia and hypertrophy rather than atrophy as observed in the limb muscles
 - There is a need for more research to investigate the underlying reasons behind this phenomenon.
- Reduced UES opening is a constant clinical feature

Inclusion Body Myositis (IBM)

- Causes: fibrosis of cricopharyngeal muscle, suprahyoid muscle weakness, diminished descending bolus forces and impaired relaxation or spasm of UES
- Patients may be asymptomatic but may have marked swallowing abnormalities on VFSS
- Two most sensitive questions to detect dysphagia history in IBM are “Does food get stuck in your throat?” and “Do you have to swallow repeatedly to get rid of food?”
- Rx: Botox to CP, balloon dilation, CP myotomy

Inclusion Body Myositis (IBM)

- Avoids eating meats and breads in restaurants as it will take her a long time to finish eating them but eats meats (fish, chicken) at home in small portions
- She prefers to eat soups and other soft foods
- No difficulty with pills- “I have learned how to swallow them.”

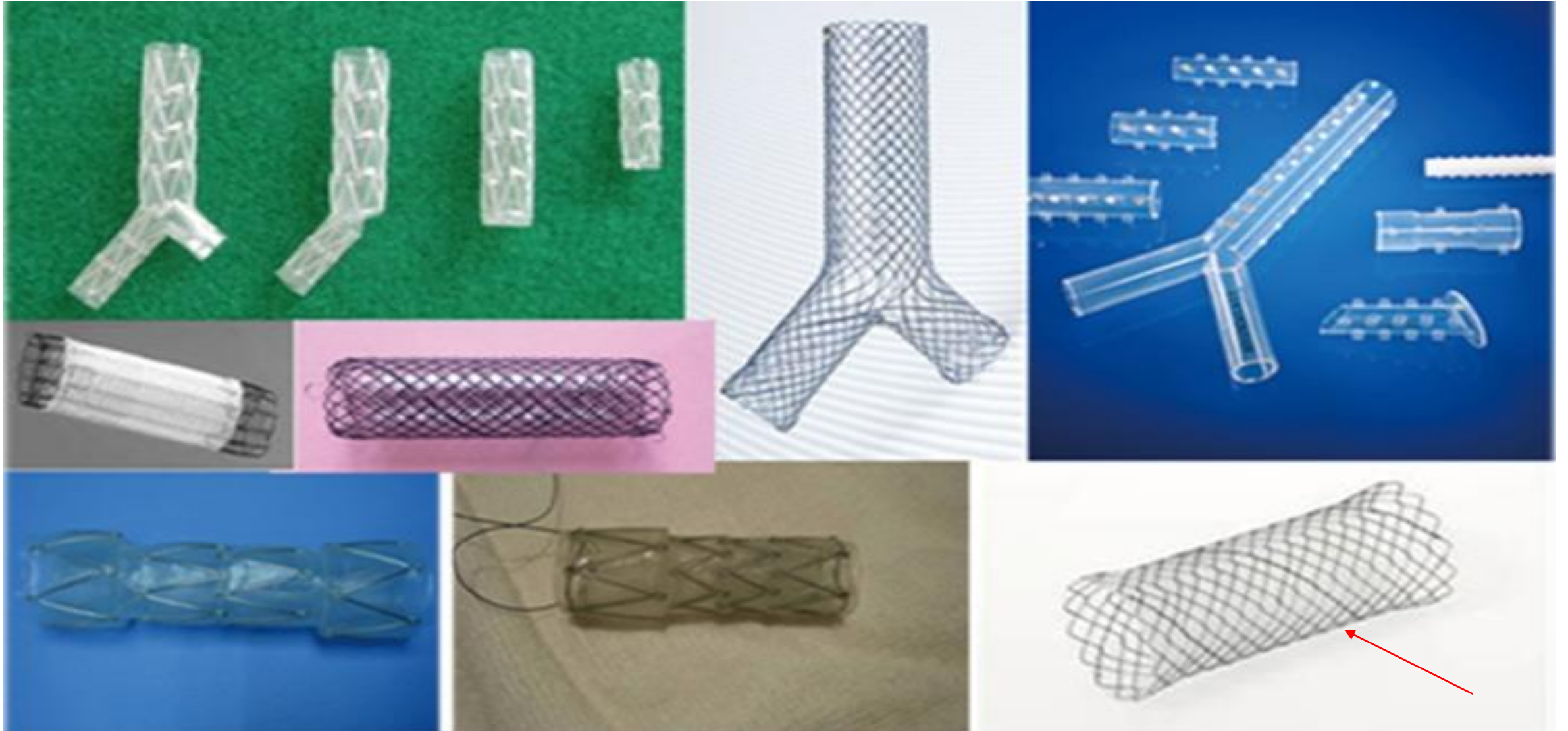
Tracheoesophageal Fistula

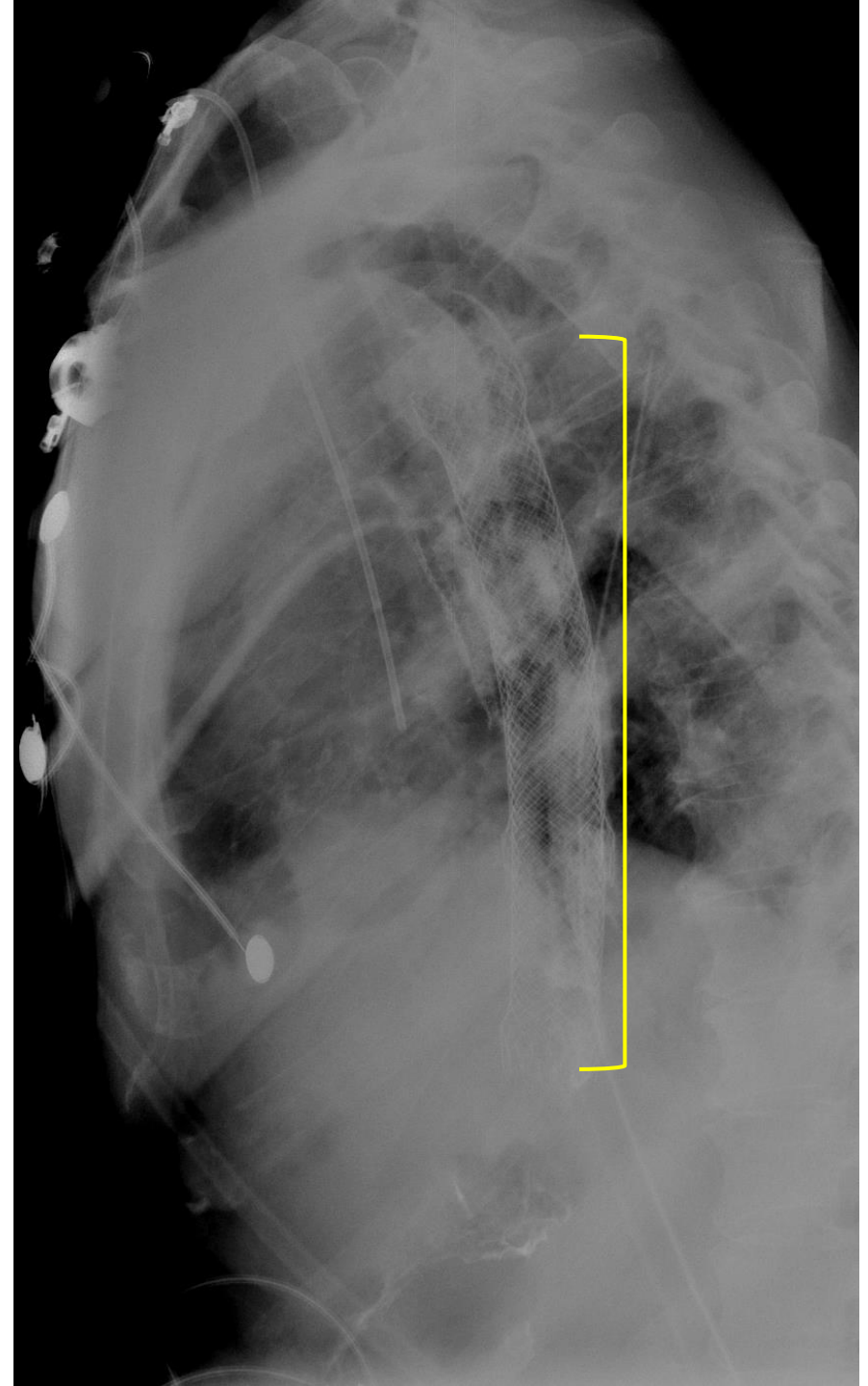
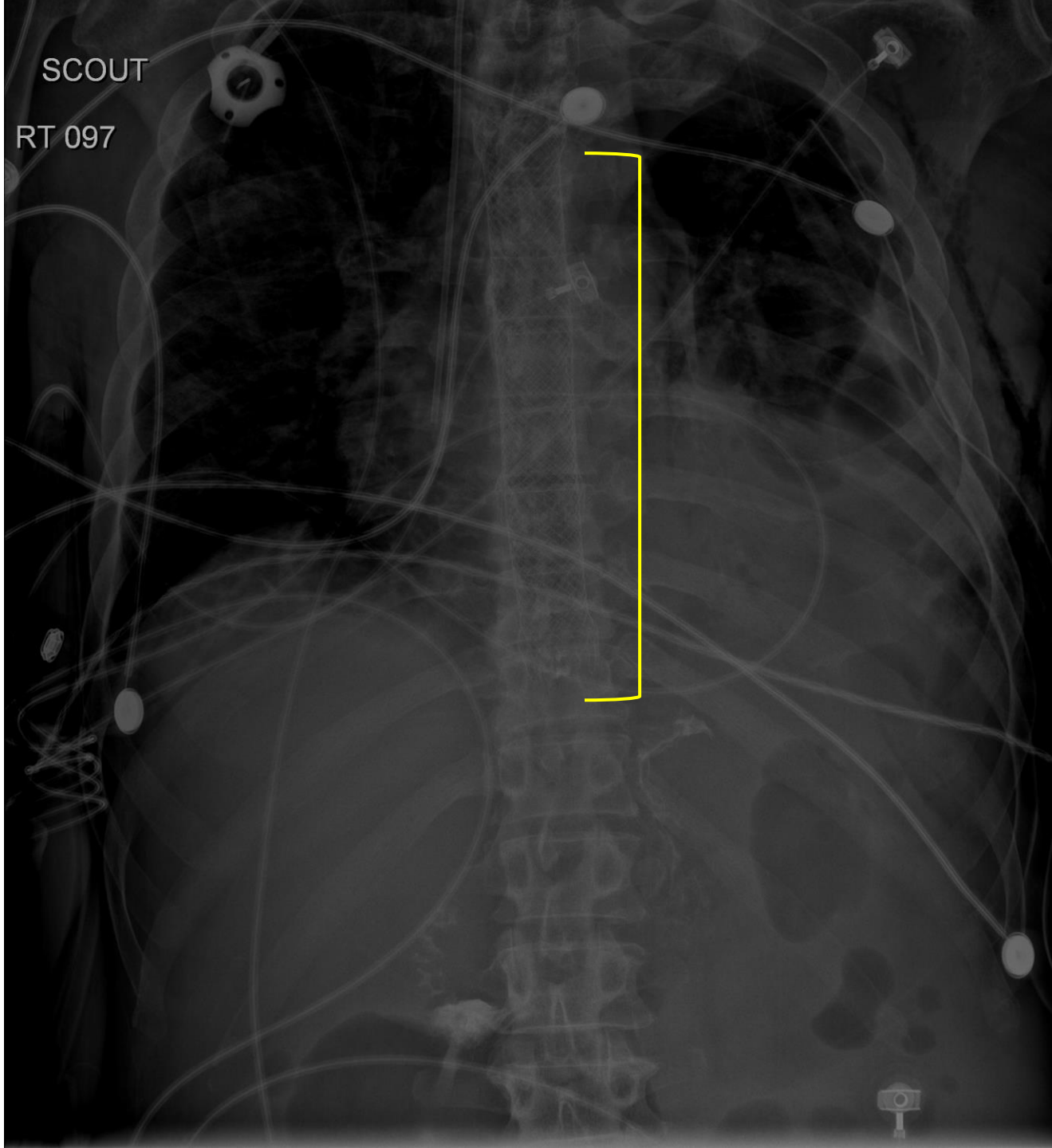
- 53-year-old male with Esophageal SCC stage IV, s/p chemo/RT, with known TE fistula, status post dual stenting of left bronchus and esophagus in 2015
- Required an overlapping stent in the esophagus 3 months later due to new tumor growth at bottom of original stent

Tracheoesophageal Fistula

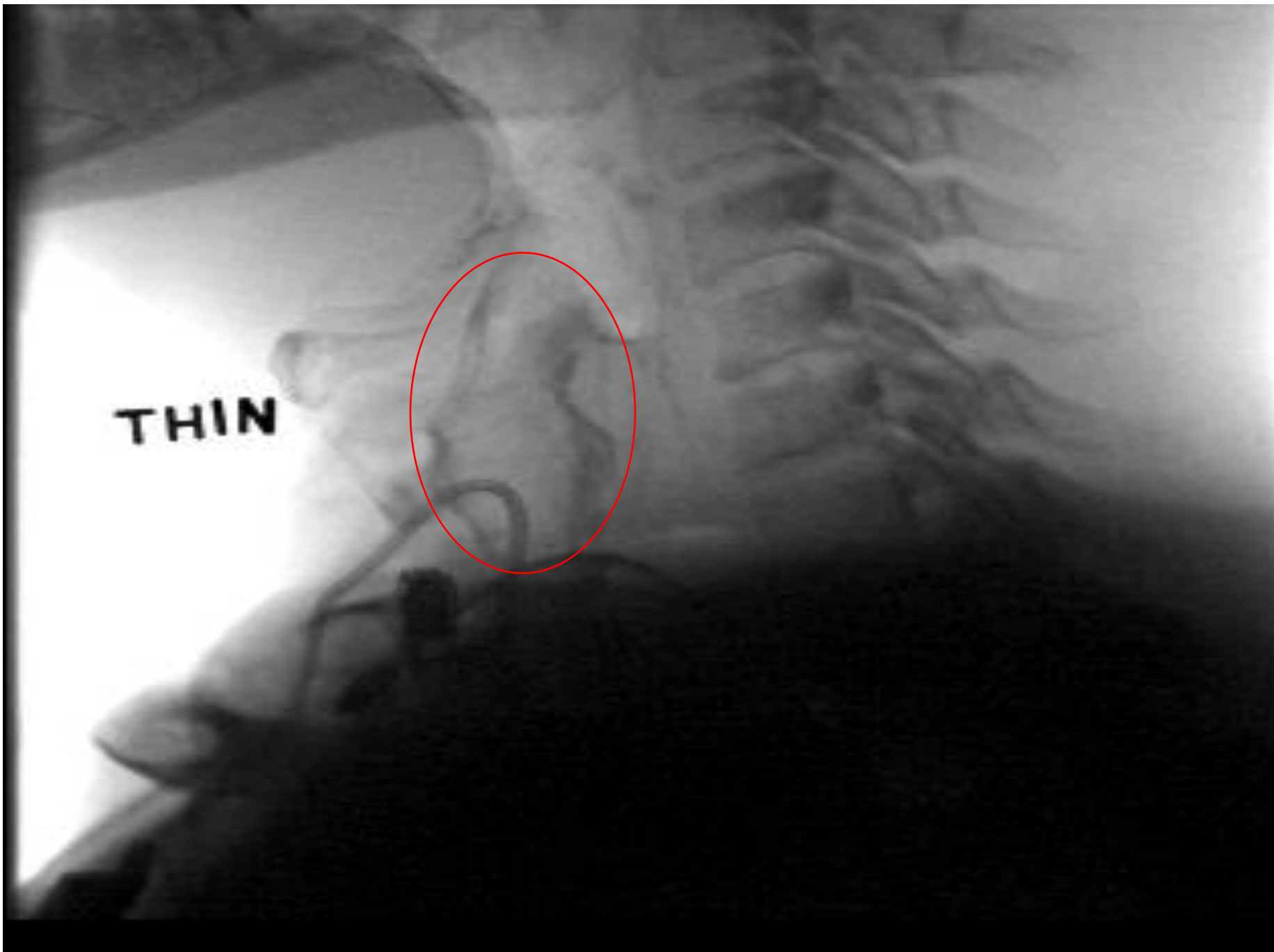
- Pt admitted on 1/29/16 for SOB
- Developed left sided tension pneumothorax
 - an accumulation of air under pressure in the pleural space
- Had 1.5 Liters of bloody fluid drained via chest tube
- Had Bronchoscopy on 2/1/16, with surgical glue to repair 3 new fistulas (prior stents in good position)
- SLP asked to evaluate, with VFSS conducted next day

Tracheoesophageal Fistula





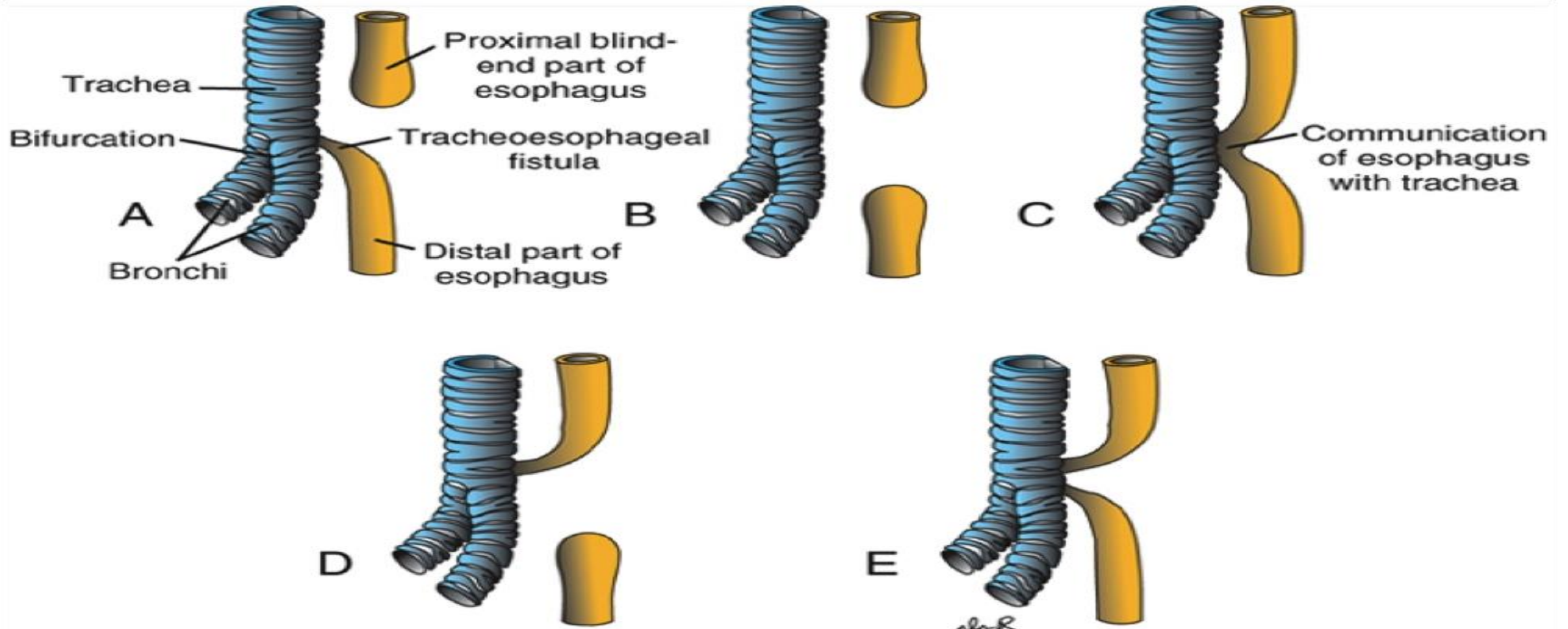
Still image
of Barium
coughed up
in trachea



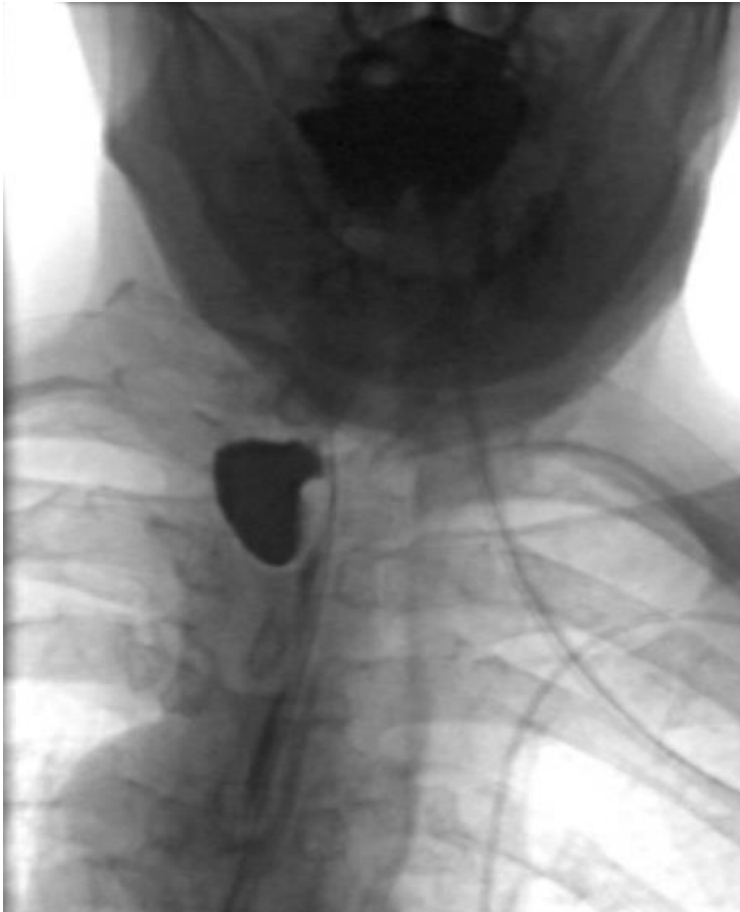
Tracheoesophageal Fistula

- Mingyao et al (2015) report TEF occur as a common congenital deformity or secondary to pathologic injury from diseases such as carcinoma. Esophageal malignancy is the main cause of TEF
- TEF usually develops during or after radiation and chemotherapy
- Life expectancy of the patients without proper treatment may be measured in weeks
- Main treatments for TEF:
 - interventional treatment with bronchoscopy and endoscopy can alleviate symptoms and prolong survival
 - Surgery including fistula repair, fistula closure with pedicled muscle flap or omentum major, esophageal bypass surgery and lesion resection
 - general treatment, such as feeding tubes or TPN, antibiotics, elimination of airway secretions

Tracheoesophageal Fistula



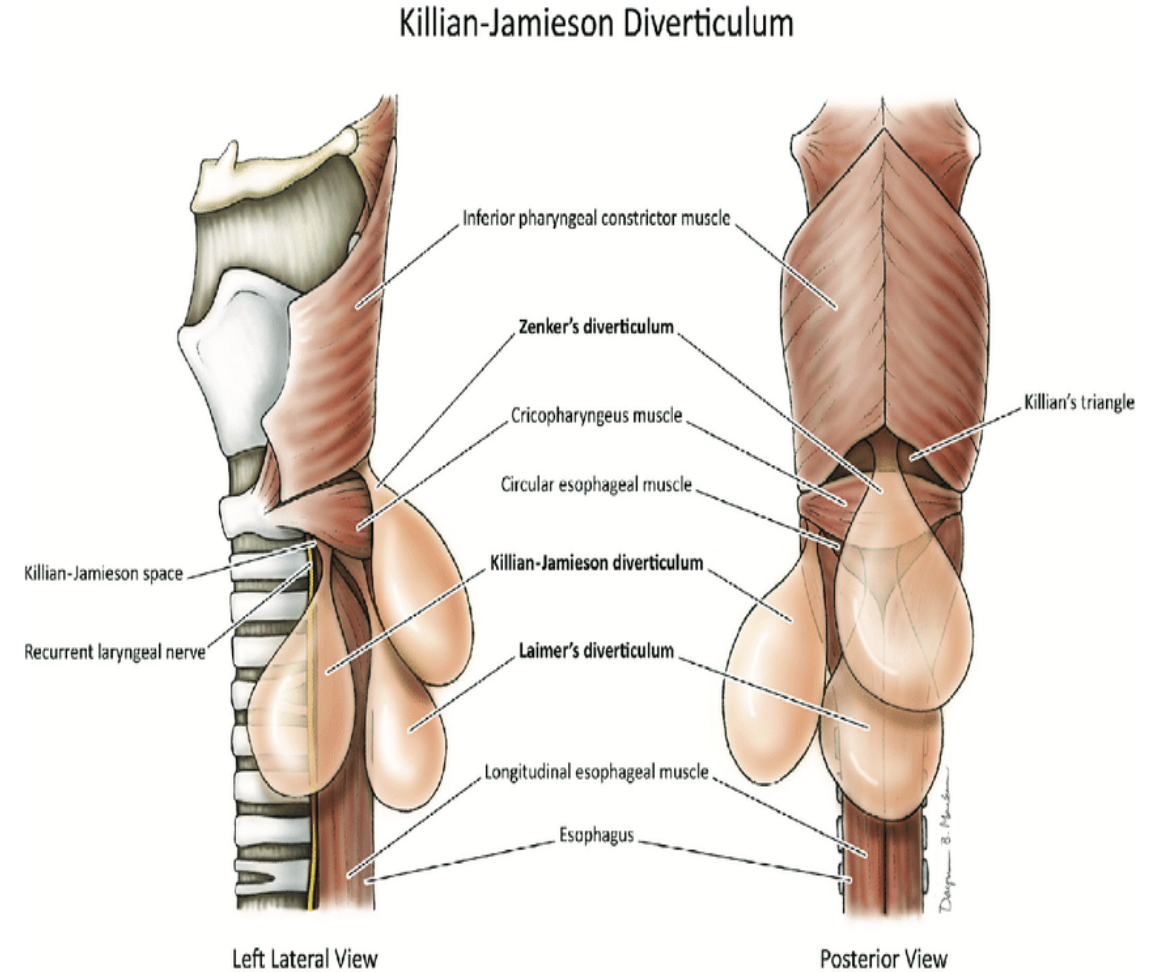
Killian-Jamieson Diverticulum



- 72-year-old male, with history of schizophrenia, stroke and dysphagia
- Intubated for 3 days this admit due to respiratory failure secondary to pneumonia & an oral abscess

Killian-Jamieson Diverticulum

- It is a false diverticulum and represents an outpouching of mucosa through a muscular defect (in this case the Killian-Jamieson space)
- Usually smaller than Zenker diverticulum (usually <1.5 cm), but they also are rarely symptomatic
- Gastroesophageal reflux occurs more frequently in ZD than in KJD (Kim, 2012)
- Incidence of KJD is a fourth of that of Zenker Diverticulum (ZD)



Zenker's diverticulum

- 90-year-old male, admitted 7/3/17 s/p fall
- PMH significant for CVA, GERD, dementia
- BSE: pt continuously spitting up phlegm into tissues. Pt reports he used to only cough/choke during a meal, one time per month but now he is choking with every meal. Dtr confirms that it has gotten worse in past few months. Pt has a private duty caregiver who told dtr she was concerned about aspiration and wanted a swallow evaluation for the pt while he was admitted. Mild dysphonia noted.
- s/s of aspiration with thin liquids and regurgitation present with thin and puree

Zenker's diverticulum

- Pt elected to have surgical repair by ENT
- Surgery was two days later for cricopharyngeal myotomy, diverticulectomy and DML with bilateral vocal fold Prolaryn Plus injections
- Began clear liquid diet next day, full liquids for next week and then puree diet until f/u with ENT

Example of before surgery (blue balloon)



Pink balloon represents the surgical change

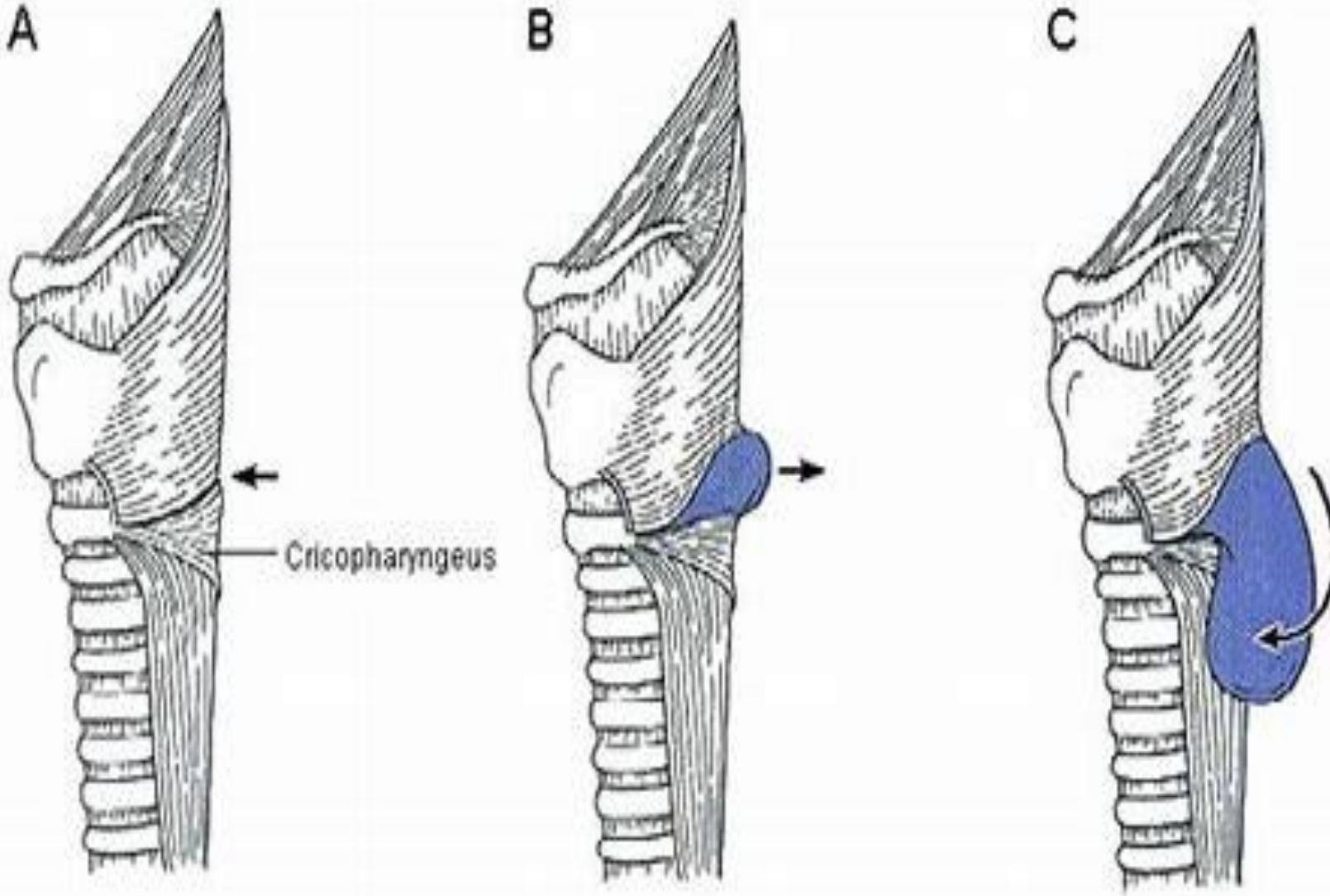


Zenker's diverticulum

- Known as a pharyngeal pouch, ZD is a posterior outpouching of the hypopharynx, just proximal to the upper esophageal sphincter through a weakness in the muscle layer called the Killian dehiscence
- Entrapment of liquid and/or food within the diverticulum may result in globus sensation, dysphagia, halitosis, regurgitation, cough, infection
- Zenker's diverticula are pulsion diverticula that arise in Killian's triangle, a space between the inferior pharyngeal constrictor muscle and the cricopharyngeus muscle

Zenker's diverticulum

- Etiology of Zenker's diverticula is “increased intraluminal pressure in the oropharynx during swallowing, against an inadequate relaxation of the cricopharyngeal muscle, and subsequent incomplete opening of the UES, causing the protrusion of the mucosa through an area of relative weakness”.
- Zenker's diverticula protrude posteriorly into the retropharyngeal space and usually extend to the left. Larger diverticula bulge laterally into the visceral space.



ZD is the most common form of esophageal diverticulum, according to the National Institutes of Health, with a 0.01 to 0.11 percent reported prevalence rate targeting mostly elderly.

Pharyngeal Diverticulum

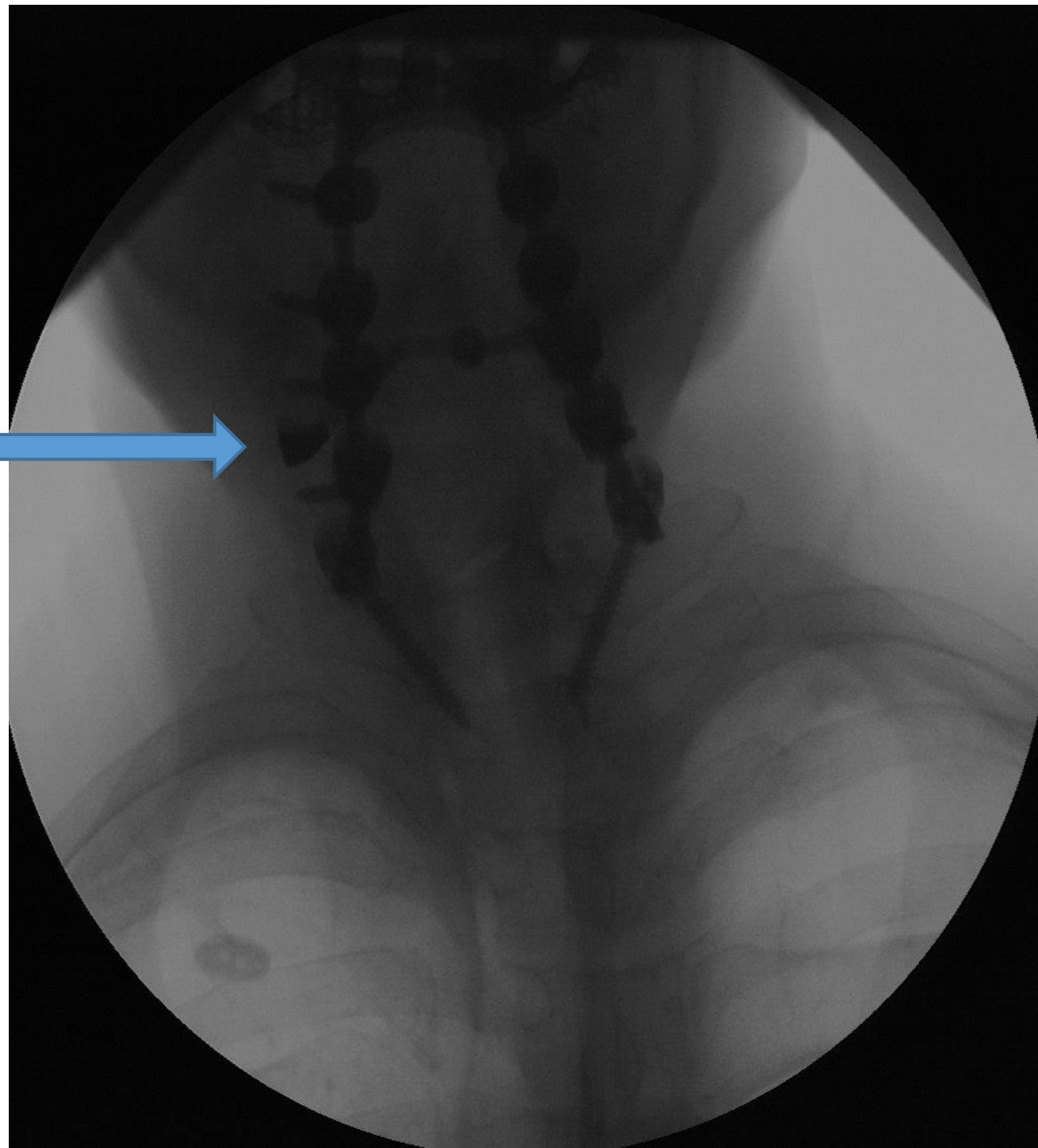
- 70-year-old male with report of “forceful” swallowing of solids and occasional “coughing” with liquids
- Presents as OP for Esophagram immediately prior to VFSS in 4/2018
- Pt had posterior approach C2-T1 decompression and fusion on 5/22/2017 due to cervical kyphosis and cord compression
- Had to have IR guided drain of neck wound on 5/30/17

Pharyngeal Diverticulum

- Referral by ENT, due to c/o “choking in his sleep” every night at least twice per night
- He must “push hard” but denies globus
- Symptoms began following his cervical spine sx almost one year earlier
- ENT exam was unremarkable

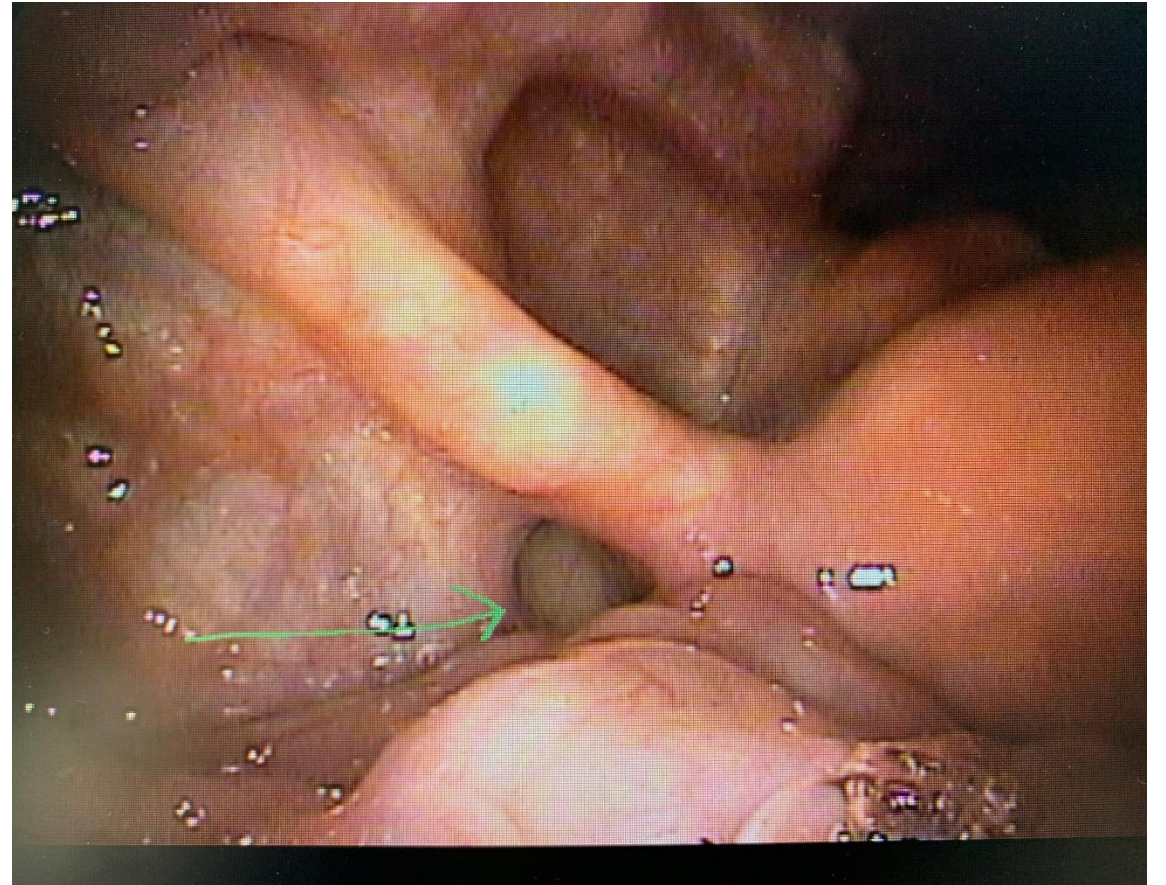
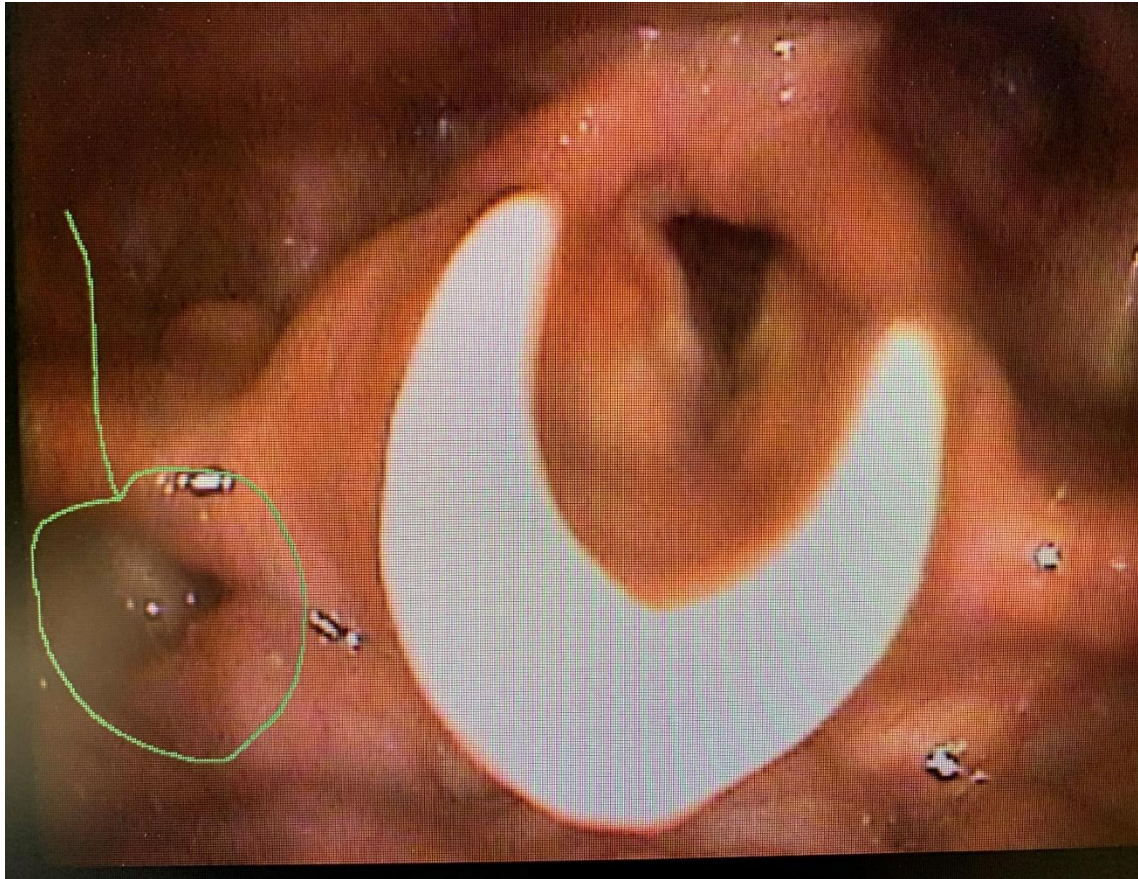
Pharyngeal
Diverticulum

Right lateral
diverticulum



VFSS
4/23/18

Pharyngeal Diverticulum



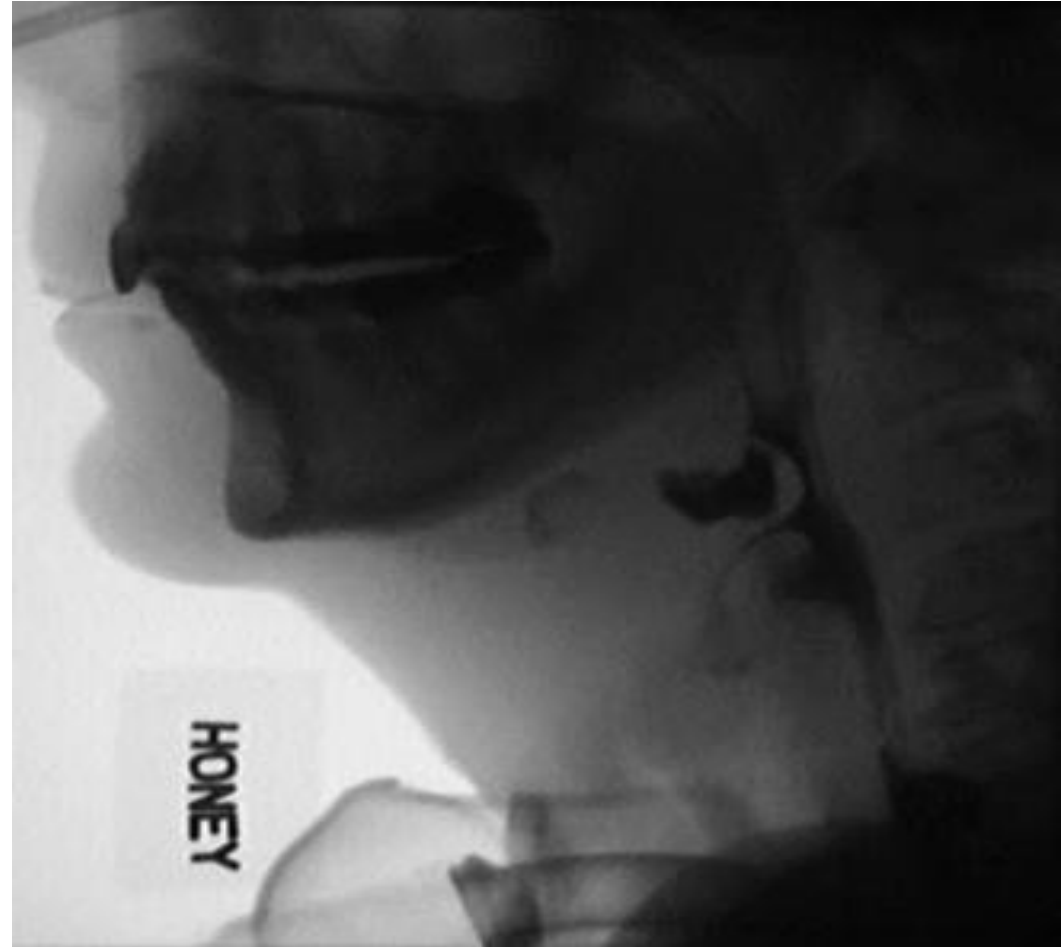
Strobe images by ENT

Pharyngeal Diverticulum

- Buckstein et al., 1950 report pharyngeal diverticula are uncommon and may arise from different parts of the pharynx, such as the tonsil fossa, the vallecula, or the pyriform sinus on either side
- Per Buckstein lateral pharyngeal diverticula arising in the vallecula have been described sporadically (Kaufman, 1956; Fowler, 1962).

Bilateral TVF Paralysis

- 58-year-old female, status-post total thyroidectomy, due to multiple nodules with bilateral TVF paralysis. #6 Shiley, fenestrated, cuffed trach placed 5 days post sx



Bilateral TVF Paralysis

- Typically, unilateral TVF paralysis is more common but this was a case of bilateral paralysis
- Francis et al (2014) report incidence of 8.2% unilateral vocal fold paralysis (UVFP); 1.3% bilateral vocal fold paralysis (BVFP) following thyroidectomy

Bilateral TVF Paralysis

- Vocal cord paralysis is a known possible complication following thyroid surgery due to close relationship between the recurrent laryngeal nerve and the thyroid gland (Misron et al, 2014)
 - The authors stated, “Speech therapy plays a critical role in the management of patients with bilateral vocal cord paralysis, as most of these patients may develop aspiration symptoms.”
- Our patient received voice therapy by a trained voice clinician & home exercise program
- Pt pleased with the recovery of her voice and swallow function
- Decannulated 2 months post trach placement

Closing remarks

- Know normal from abnormal
 - When something is very wrong, stop and collect thoughts. Take a moment to discuss with Radiologist or call another SLP to the x-ray suite to brainstorm
- Collaborate with other disciplines (ENT, GI, surgeon, Neurologists) and fellow clinicians
- Communication is improved between different levels of healthcare workers and limited adverse events, improved outcomes and decreased length of stay and greater patient-staff satisfaction through cohesive teamwork. Epstein (2014)
- Conduct research & investigate

Questions or comments

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