An interesting case of enlarged head

CLINICAL MEET

MEDICINE DEPARTMENT

CLINICAL HISTORY

- A 59-year-old male came with c/o gradually progressive swelling of face and neck for 5 weeks
- The swelling was non-itchy, painless, and associated with an increase in the size of the head.
- The patient could not see, hear, eat or speak due to the swelling since 7 days.
- He had no history of fever, cough, breathlessness, trauma or insect bite.

PAST HISTORY

- K/C/O squamous cell carcinoma tongue since one year. He had undergone right hemi-glossectomy and received 25 cycles of radiotherapy 8 months back.
- Five months before presentation, the patient had a local recurrence of the tumor for which he underwent modified radical neck dissection. Postoperatively he was on mechanical ventilation for a prolonged period and had a tracheostomy in-situ.
- The patient was later started on chemotherapy with Cis-Platinum and 5-Fluorouracil (5 cycles completed just before admission).

- The head size was increased; the facial swelling involved the eyelids, lips, pinna, and cheeks.
- General and systemic examination was normal.

Published with Patient's relative's consent

ON EXAMINATION

- Temperature - 97.6
- Pulse - 92/min , regular
- BP - 110/60 mm of Hg
- Spo2 - 97 % on room air
- Tracheostomy in-situ
- RR - 22/ min

- CVS - S1S2 heard, no added sounds.
- RS - bilateral air entry equal.
- P/A - soft and non tender.
- CNS – conscious, moving all four limbs

INVESTIGATIONS ON ADMISSION

Tests	Tests
Hb- 11.2 gm/dl	Urine routine microscopy- Normal
Total leukocyte count- 13,000	Thyroid function tests- Normal
Platelet count- 3,20,000	HIV, HBsAg, HCV – Negative
Liver and Renal function tests- within normal limits	BSL Random- 90 mg/dl
Serum electrolytes- within normal limits	Serum IgE levels – Normal
CRP- 10	Absolute Eosinophil count – Normal

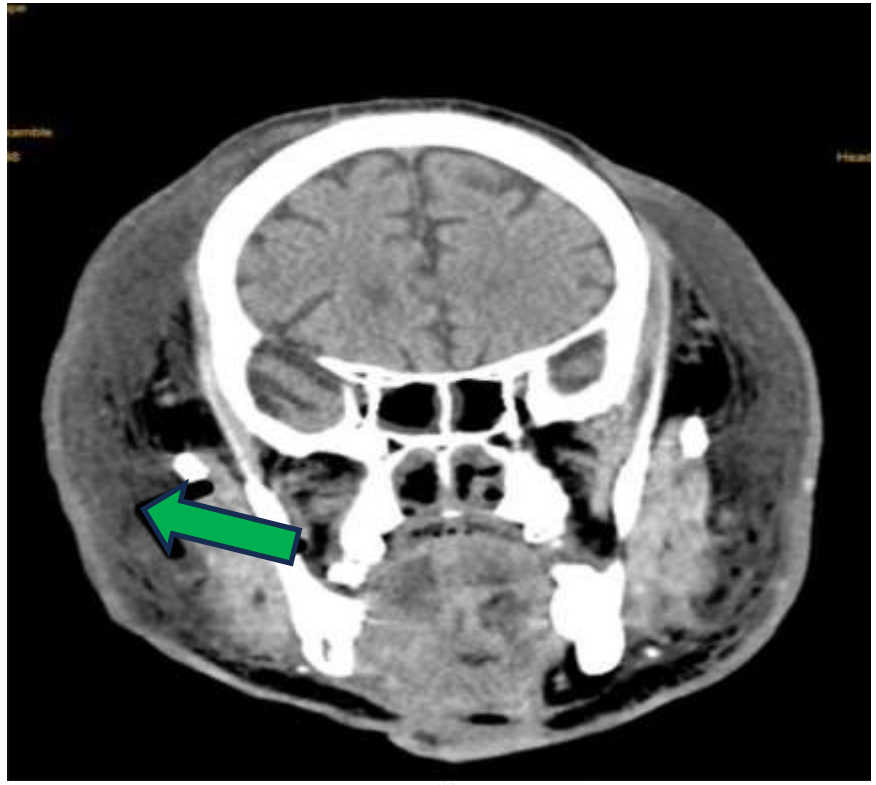
- ECG- Normal sinus rhythm
- Chest x ray- no abnormality detected
- 2D Echo- no abnormality detected
- USG abdomen and pelvis- NAD

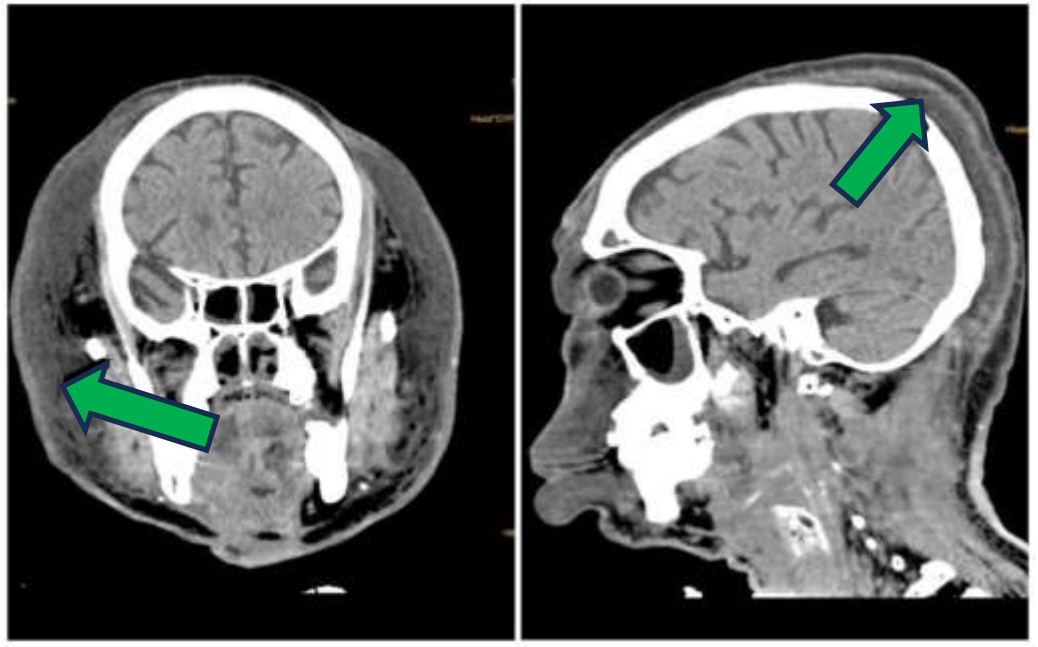
Differential diagnosis-

- Medication induced or chemotherapy induced angioedema
- Superior vena cava syndrome
- Allergic reactions
- Cellulitis due to local infection
- Lymphedema secondary to tongue carcinoma

COMPUTED TOMOGRAPHY (CT) WITH CONTRAST OF THE FACE & NECK

- Post-modified radical neck dissection status
- Markedly thickened skin with diffuse subcutaneous edema in the neck, entire scalp, upper-lip, pre septal compartment of both orbits, bilateral eyelids, and face with glossomegaly suggestive of lymphedema.
- There was no evidence of neck vessel thrombosis.





CT CHEST – Showed multiple small soft tissue density lesions of size 3-4 mm scattered in both lungs suggestive of lung metastasis.

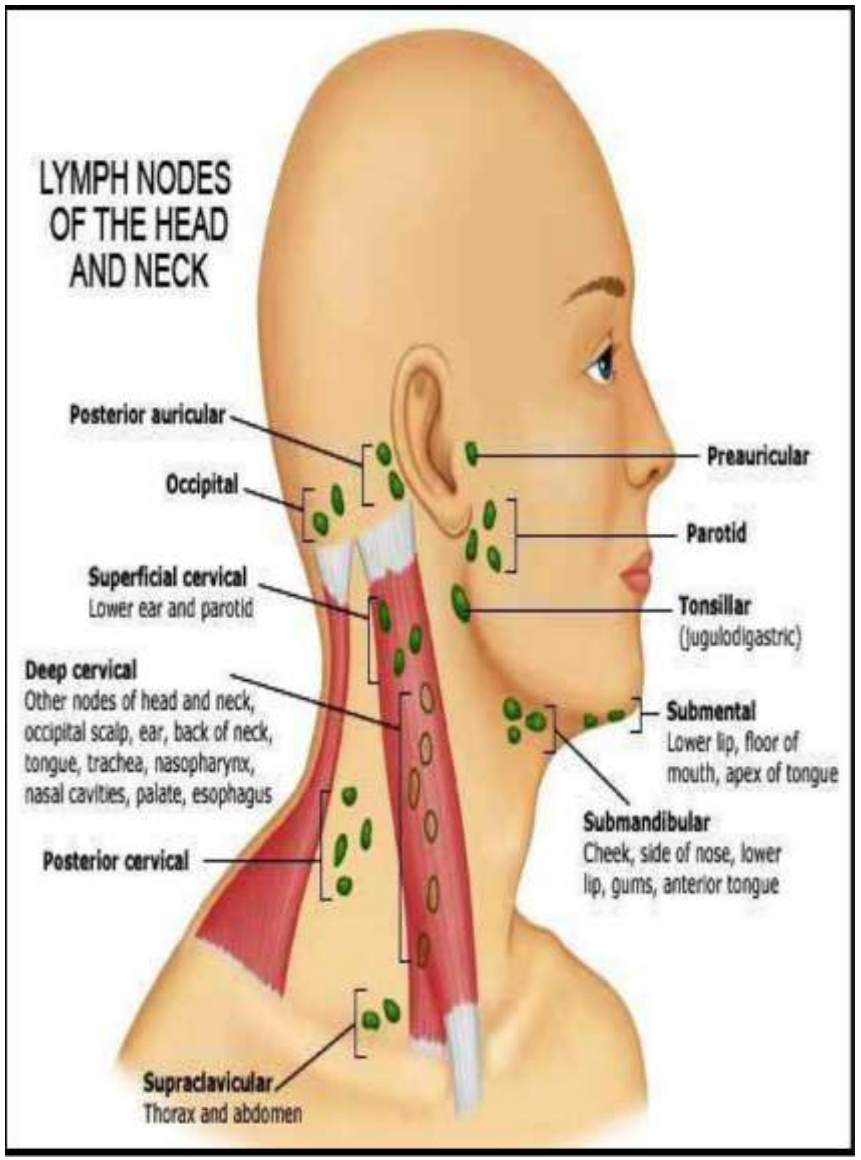
Whole Body FDG – PET scan - Metabolically active lesions noted in right floor of mouth, active nodes in the anterior neck and multiple metabolically active lesions scattered in both lungs.

The patient was diagnosed to have metastatic squamous cell carcinoma of the tongue with Head and Neck Lymphedema (HNL) (Foeldi's Stage III) with tracheostomy in-situ

Management in the hospital

- Manual lymph drainage and a compression device for face (as per his measurements) advised
- Dermatological consultation to prevent the skin changes associated with lymphedema - Topical Steroid cream given
- Supportive care with Nasogastric tube feeding, IV fluids and antibiotics
- But the lymphedema did not respond to these treatment modalities. He eventually succumbed to his illness (Stage IV Carcinoma) on day 19 of admission secondary to septic shock.

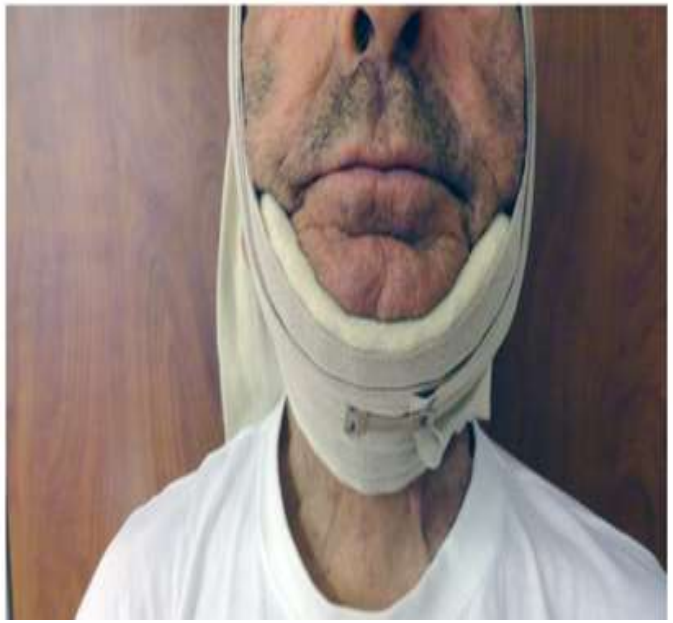
HEAD AND NECK LYMPHEDEMA

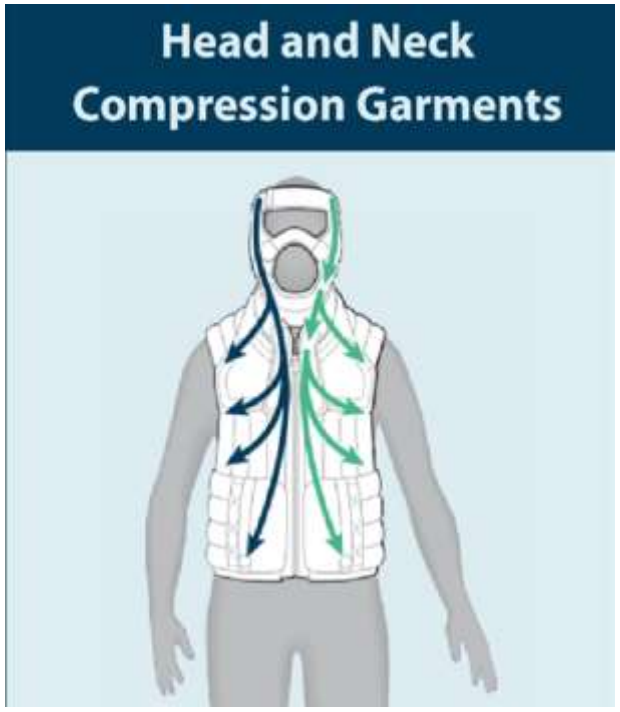


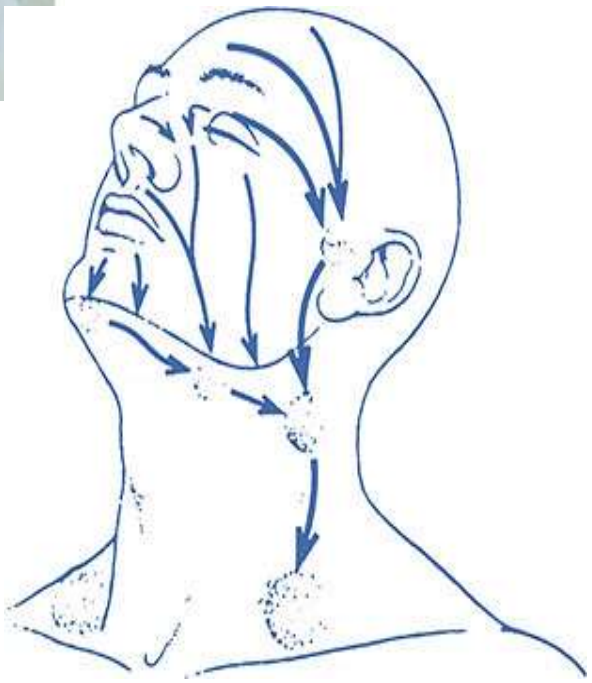
- Head and Neck Lymphedema is a complication of head and neck cancers. It requires multimodal therapy
- Why does it occur?
  - Surgical removal of lymph nodes and lymph vessels
  - Scar formation and adhesions
  - Post-radiotherapy decrease in number and size of lymph vessels, fibrosis

- Stagnated proteins causing low level inflammation which leads to an overgrowth of interstitial connective tissue and eventual fibrosis
- Severe HNL can cause impairment of speech, hearing and vision.
- Management of HNL includes Complete Decongestive Therapy (CDT), Manual Lymph Drainage (MLD), Compression bandages, skin care, physiotherapy.
- Our patient had severe stage III lymphedema with stage IV malignant disease and thus did not respond at all to various treatment options.

Compressive Bandage and Garments and Manual Lymph drainage







Foeldi's Staging of Lymphedema

Stage	Pathological mechanism
0 Latency	Focal fibrosclerotic tissue alterations
1 Reversible	High protein oedema; focal fibrosclerotic tissue alterations
2 Spontaneously irreversible	Extensive fibrosclerosis; proliferation of adipose tissue
3 Elephantiasis	Extensive fibrosclerosis; proliferation of adipose tissue

MD Anderson Cancer Center Staging of Lymphedema

Stage	Description
0	No visible edema but patient reports heaviness
1a	Soft visible edema; no pitting, reversible
1b	Soft pitting edema; reversible
2	Firm pitting edema; not reversible; no tissue changes
3	Irreversible; tissue changes

TAKE HOME MESSAGE

- Lymphedema of extremities is common post Mastectomy or other chest and abdominal surgeries.
- In India, HNC are common due to tobacco and betel nut addiction.
- Although, some lymphedema is common in HNC, severe and treatment resistant Head and Neck lymphedema as was seen in our patient is a rare occurrence.
- Early diagnosis and prompt management can prevent severe cosmetic and functional disfigurement.
- In the present case, the patient presented late to us when he already had severe HNL with severe functional disability, thus making a complete cure difficult.

THANK YOU