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UNRAVELLING THE SUSPENSE OF AN
EXTERNAL JUGULAR VEIN
MALFORMATION

UNIT 4 & 7
DEPARTMENT OF GENERAL SURGERY
DR DY PATIL MEDICAL COLLEGE AND HOSPITAL, PUNE

INTRODUCTION

Venous malformations (VMs) are rare abnormalities that may manifest as isolated neck masses in adults. Among the uncommon cases are cervicofacial VMs originating from the external jugular vein (EJV), with only a few instances documented in the medical literature. In such cases, patients often seek treatment due to cosmetic concerns related to the swelling.

CASE PRESENTATION

A 25/F came with c/o **swelling in the right side of the neck** since 2 years.

HISTORY OF PRESENTING ILLNESS –

- Noticed a swelling while cleaning the floor.
- Initially of size about 1x1cm then progressed to the size of about 4x3cm.
- **The swelling became more prominent when the patient stood after bending forward** for 10 to 15secs and it was associated with intermittent pain.
- She also complained of vague pain over right side of head and right upper limb intermittently.
- **History of trauma to the neck** (throttling by husband – domestic violence) 4 years ago.

Past history – Not a known case of DM, HTN, TB, Asthma, CVD, epilepsy.

No history of previous surgeries.

GENERAL PHYSICAL EXAMINATION

- Conscious, co-operative
- Moderately built and nourished
- Well oriented to time, place and person
- Afebrile
- PR – 82/min
- BP – 110/70mmHg
- No pallor, icterus, cyanosis, clubbing, lymphadenopathy and edema

LOCAL EXAMINATION

INSPECTION – There was no visible swelling in the right side of the neck

A solitary swelling of size approximately 4x3 cm seen in the right posterior triangle of the neck posterior to middle 1/3rd of SCM after bending forward for 10-15secs.

- Cough impulse - absent
- No visible pulsations.

PALPATION - No local rise of temperature

- A solitary swelling of size approximately 4x3 cm palpated in the right posterior triangle of the neck posterior to the middle 1/3rd of SCM.
- The swelling was soft, non-tender, fluctuant and compressible
- Transillumination negative
- Non- pulsatile
- There was no other swelling or lymph node palpable in the rest of the neck



PRE MANOEUVRE IMAGE





POST MANOEUVRE
IMAGE SHOWING
PROMINENCE OF THE
SWELLING

SYSTEMIC EXAMINATION

- Respiratory system – Bilaterally air entry present equally
- Cardiovascular system – S1 S2 Normal, No murmurs
- Per-abdomen – Soft, non-tender
No palpable lump or organomegaly
- Central nervous system – Higher mental functions are normal

Based on the history and the clinical examination we came to the diagnosis of

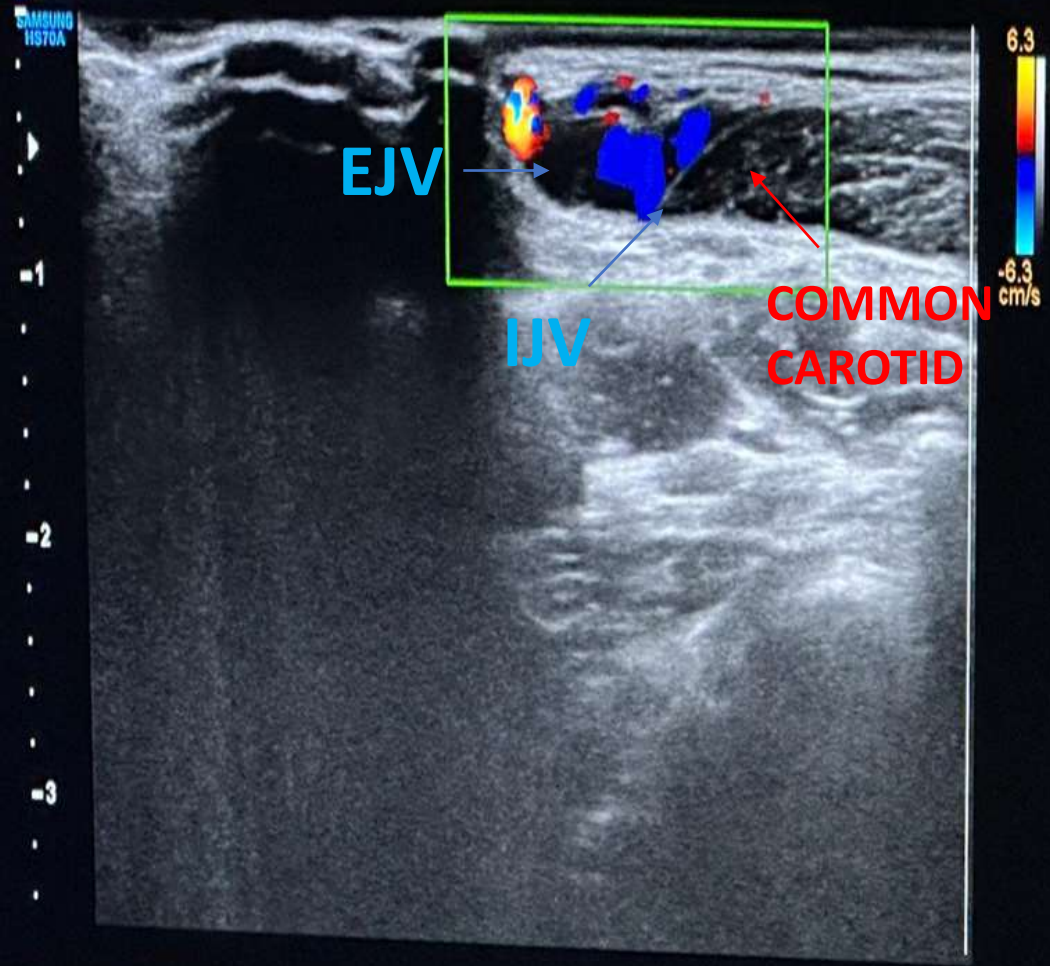
?Arterio-venous Malformation.

- **ULTRASONOGRAPHY OF THE NECK** was done which showed a well-defined lesion in the right cervical region, along the anterior aspect of the right external jugular vein, measuring approximately **2.8cm x 2.0cm**.
- It was compressible and showed no evidence of thrombosis.

- The lesion increased in size when pressure was applied to the proximal part of the right external jugular vein and when the patient bent forward, leading to the diagnosis of a **slow-flow venous malformation (VM) involving the right external jugular vein.**

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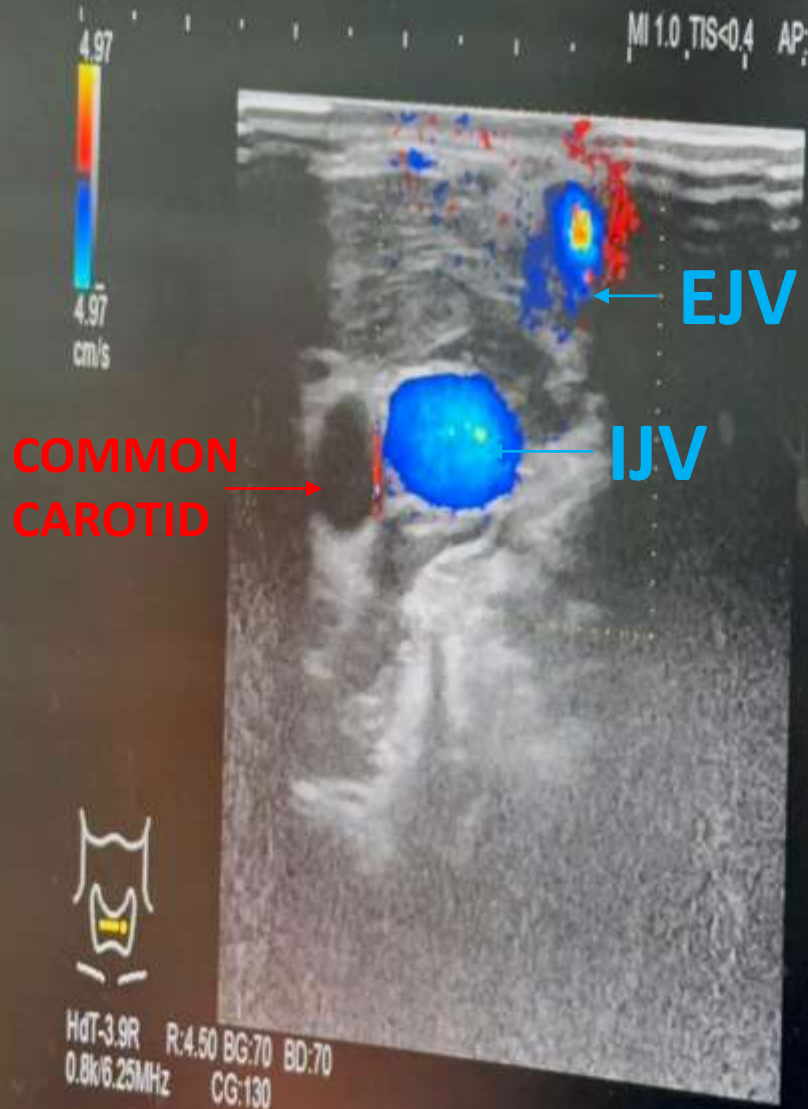


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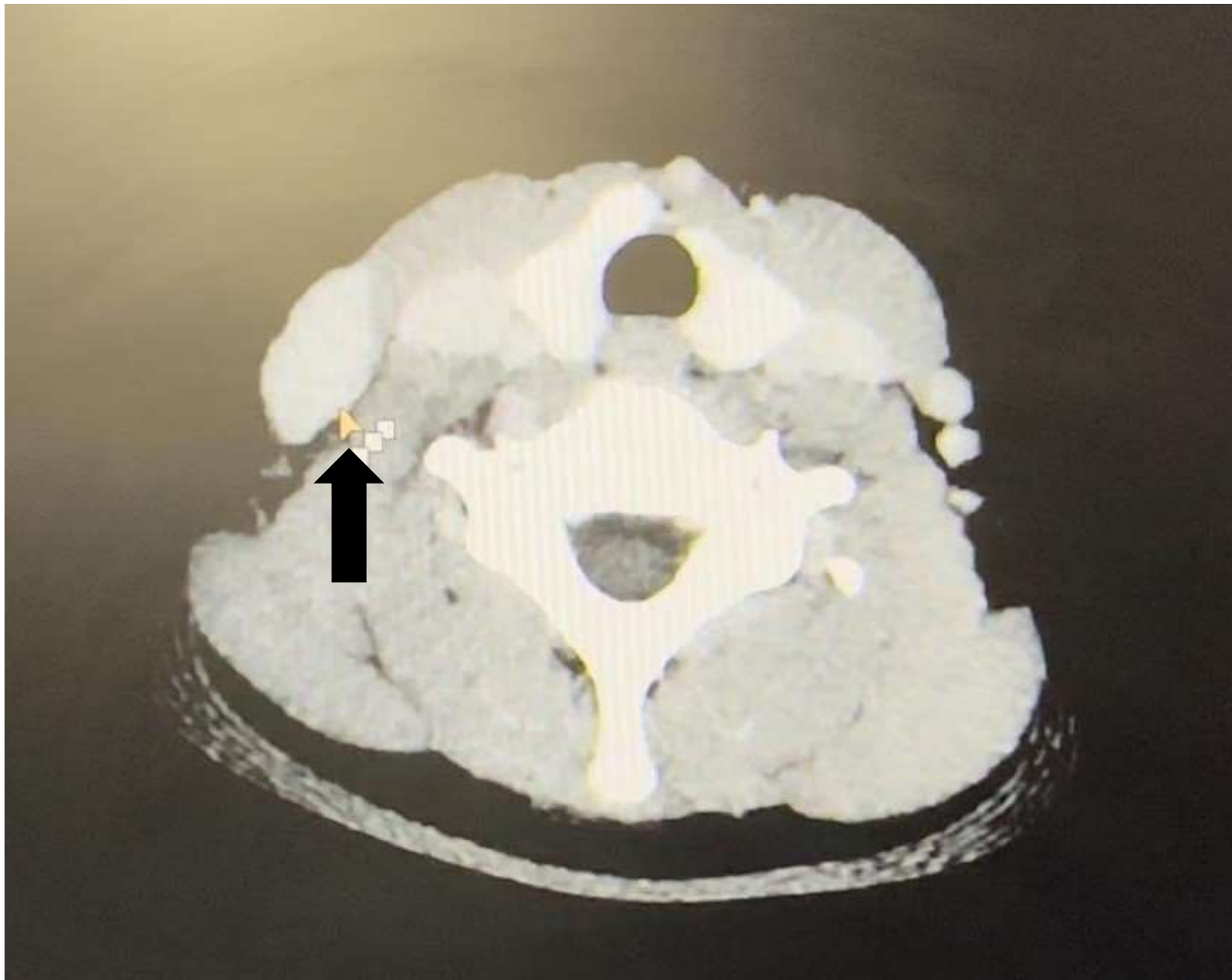
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Thyroid Probe:L55

- **CT NECK WITH ANGIOGRAPHY** revealed a well-defined oval lesion in the right lower cervical region along the anterior aspect of the right external jugular vein measuring approximately 3.5cm x 2.8cm x 2.0cm.
- It showed **contrast intravasation** from the vein during the early venous phase. The lesion was causing **indentation and displacement of adjacent structures**, including the sternocleidomastoid muscle and tributaries of the right external jugular vein.

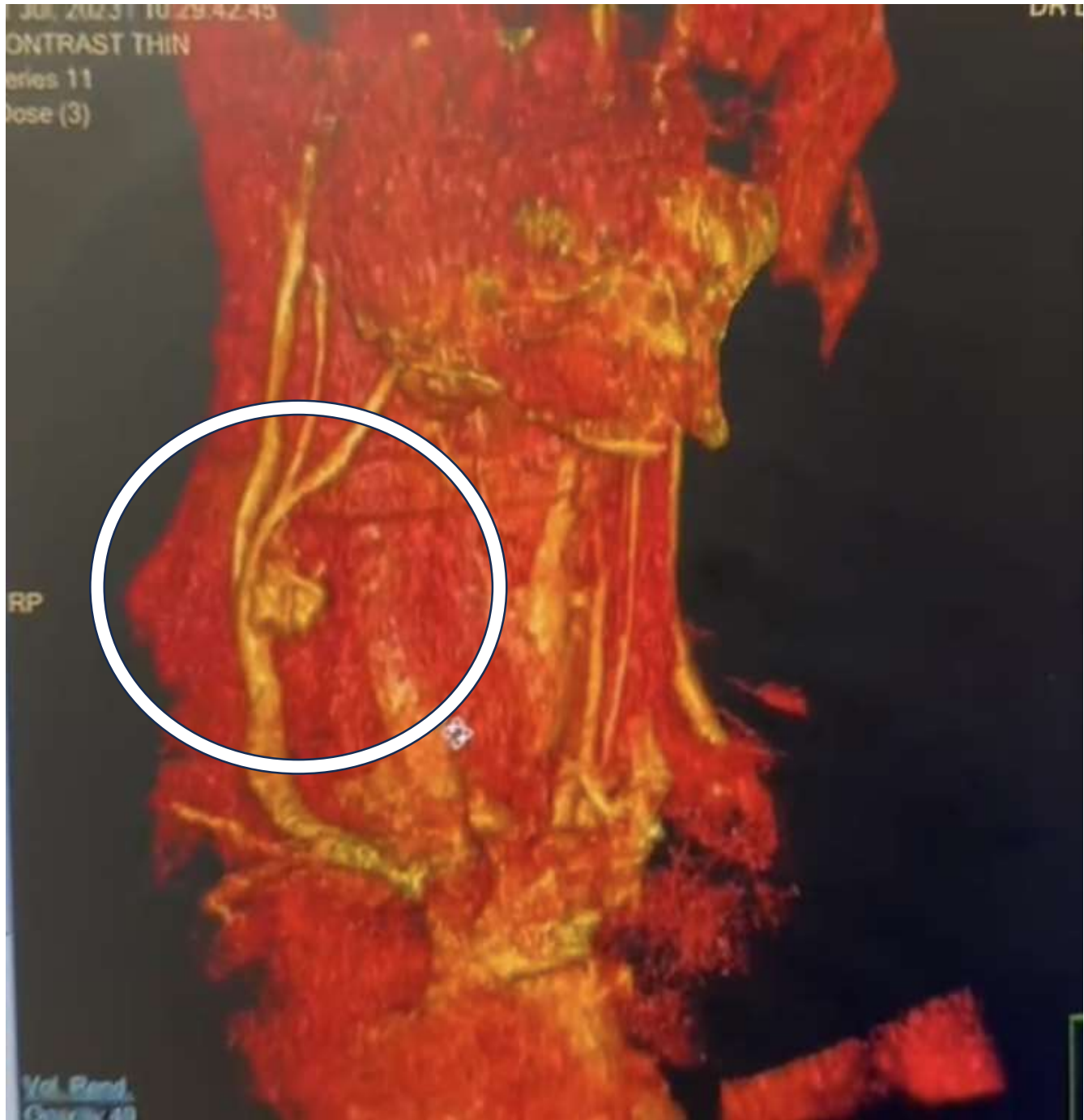
- Based on these imaging findings, the diagnosis of **SLOW FLOW VENOUS MALFORMATION OF RIGHT EXTERNAL JUGULAR VEIN** was made.





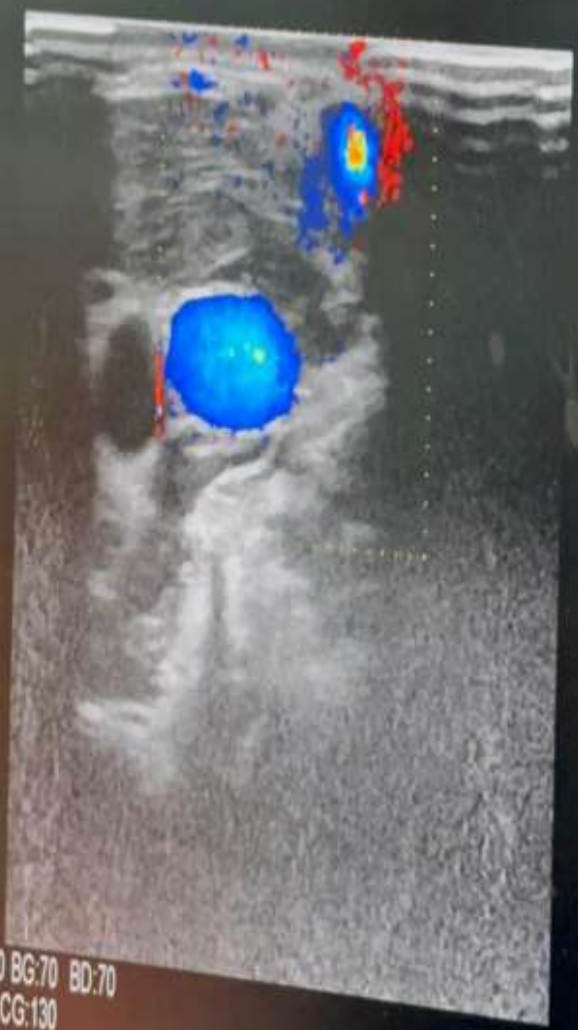
Pointer showing EJV Malformation





- Surgical excision of right external jugular vein malformation was planned under general anaesthesia.
- Intraoperative doppler was done.
- The venous malformation arising from the right external jugular vein was identified.
- Control of the external jugular vein was taken and tributaries were ligated.
- Dissection was done and the lesion was completely excised while preserving the external jugular vein.
- Adequate haemostasis was achieved and no blood transfusion was required.

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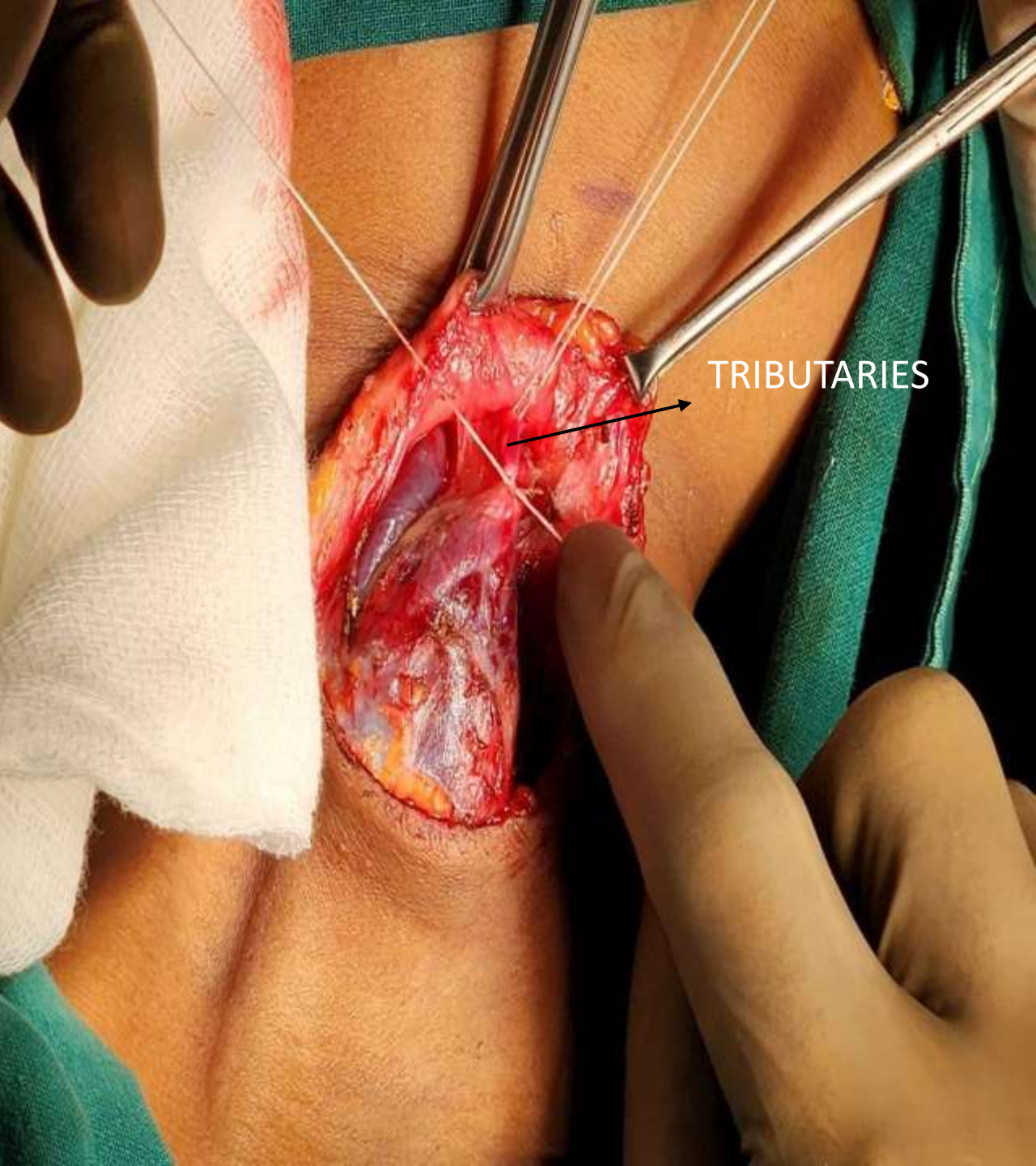
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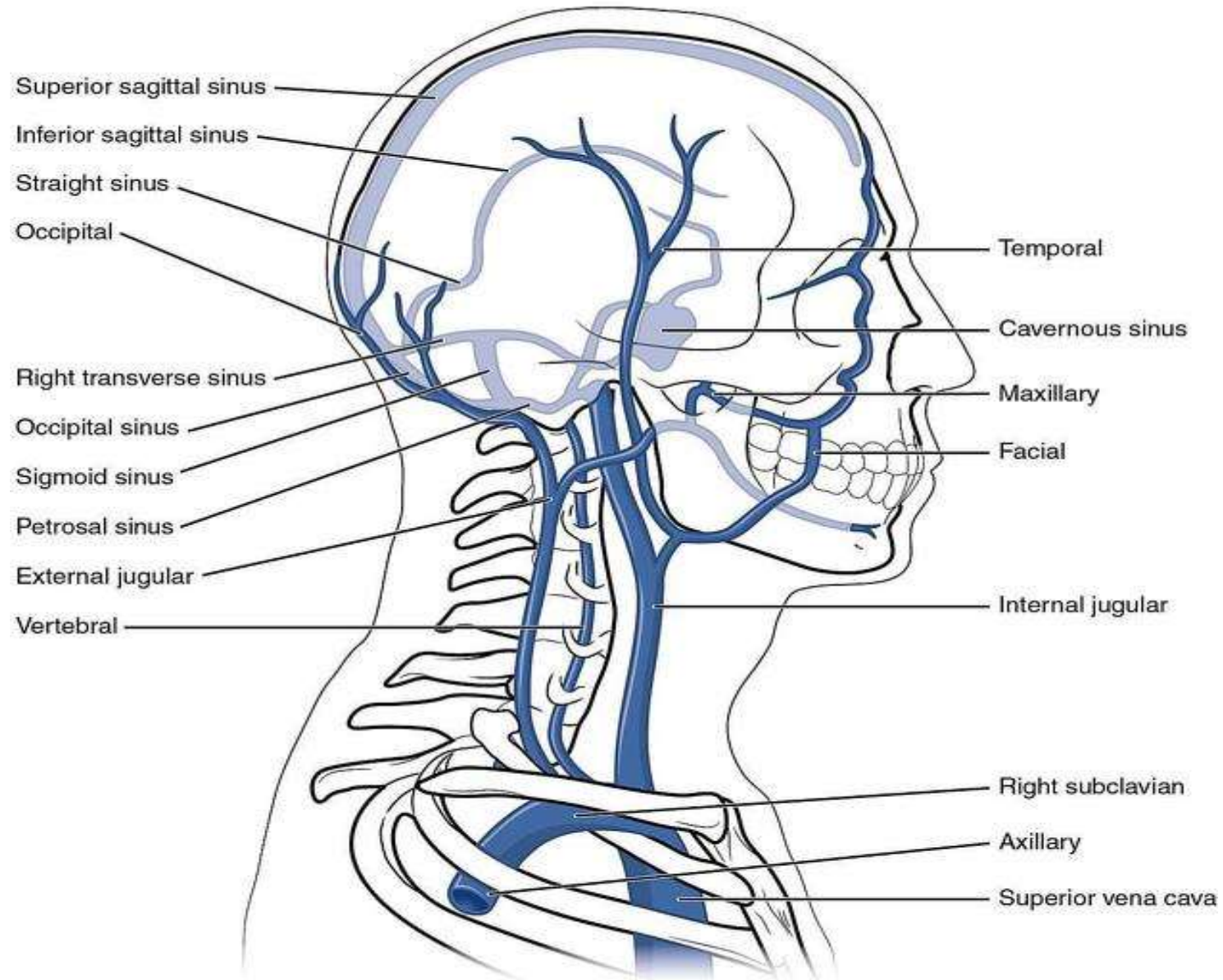


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VENOUS DRAINAGE OF HEAD AND NECK



DISCUSSION

- External jugular malformations have an incidence of 1-2% per 1,000 births. Only 10 cases have been reported so far.[1]
- Vascular lesions are classified into 2 types based on distinct clinical characteristics - Haemangiomas and Vascular malformations.
- Haemangiomas present usually as a small red mark that are present at birth in almost 40% cases. [1]
- Vascular malformations are mostly identified at birth in 90% of the cases. They grow in proportion with the age and do not regress. [2]

- On histological examination, they are characterised by ‘mature’ endothelium which are not hypercellular and which shows normal endothelial cell cycle. These malformations are mostly venous malformations.
- Slow flow venous malformations in association with the external jugular vein are unusual.
- Venous malformations are associated to the external jugular vein through a single vein or by multiple venous connections that are mostly of large size in calibre.
- Treatment modalities include – Sclerotherapy and surgery [3]

- Most of the cases are asymptomatic.
- Pain is manifested usually because of the engorgement of veins and the stretching of tissues locally as in our case.
- Over the last decade, sclerotherapy has gained more popularity in treating the cervicofacial VMs. When there are many wide communication channels in between the venous malformation and the vein associated with it, are the important predictors of successful sclerotherapy. [3,4,5]

- Due to the high risk of necrosis of the skin, unsuccessful rates of sclerotherapy and internal jugular vein proximity, surgical excision was executed in our case. Skin closure with subcuticular method of suturing in our patient gave excellent results cosmetically.

TAKE HOME MESSAGE

In the vascular malformations that arise from External Jugular Vein, the vein is usually normal and it can be spared during the excision like we did in our case. Surgical excision of these lesions should be contemplated as the first line of treatment for Venous Malformations. Advantages of Surgery are least morbidity and low rates of recurrence.

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THANK YOU