

**The 17th Congress of the Asian Federation of Societies
for Ultrasound in Medicine and Biology**

In conjunction with VSUM 2026

New sound for life, New sight for mind



**ULTRASOUND IMAGES OF CAROTID BODY
TUMORS, LITERATURE OVERVIEW AND A
FEW RARE CASES REPORTS**

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AFSUMB
2026 Da Nang
12-14.3.2026



OVERVIEW

- Starting age: 40 – 50t
- 10% of tumors appear on both sides, which is easily confused with cervical lymph nodes or other tumors of the neck area.
- About 7-10% of tumors have familial factors.
5-7% of tumors are malignant, metastases to the liver, lungs, bones.
Other endocrine tumors such as adrenal tumors may develop.
- Symptoms: large tumor in the corner of the jaw, hoarseness, difficulty swallowing or dizziness, hypersympathetic, etc.
- The characteristic image is solid mass splaying the internal and external carotid arteries.



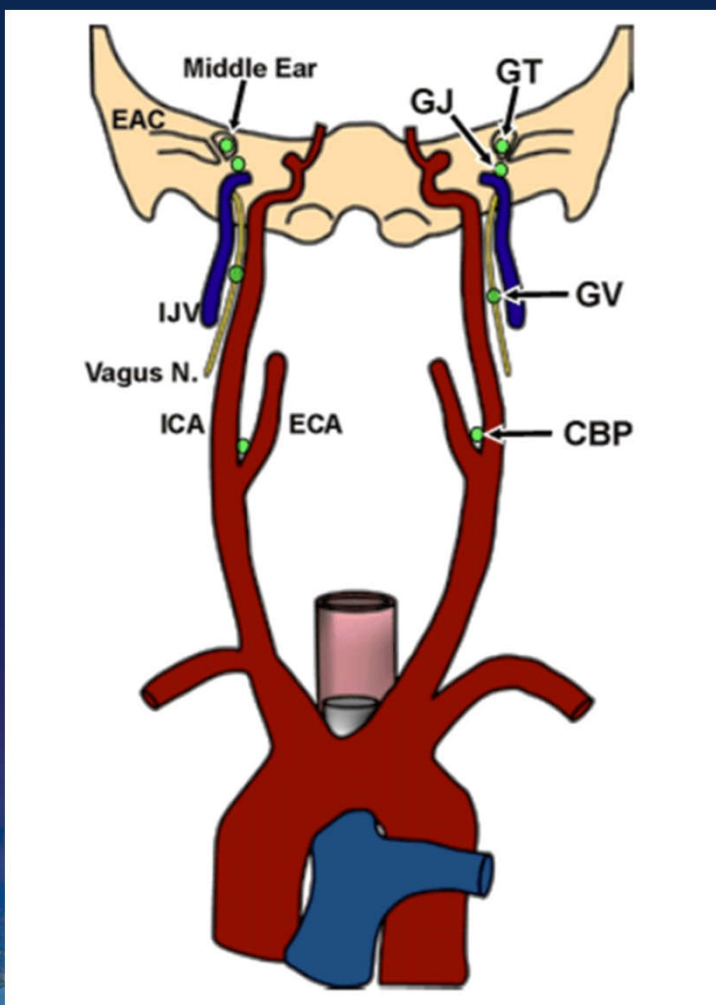
OVERVIEW

- The tumor is homogeneous or heterogeneous. Tissue density mass, when using elastic ultrasound (SWE) has a hardness of 15 – 60 kPa. Strain elastography : mosaic pattern.
- Tumors with a lot of blood vessels mainly originate from the ascending laryngeal artery, the common carotid artery or the external carotid artery. A small number of complicated cases of vascular feeding originate from the internal carotid artery or the spinal artery.





PARAGANGLIOMAS



CBP: Carotid Body Paraganglioma

GV: Glomus Vagale

GJ: Glomus Jugulare

GT: Glomus Tympanicum

CT or MRI with contrasts enhancement , vascular reconstruction images is Lyre signs to help accurately diagnose the location and origin of the tumor.

DSA: Gold standard

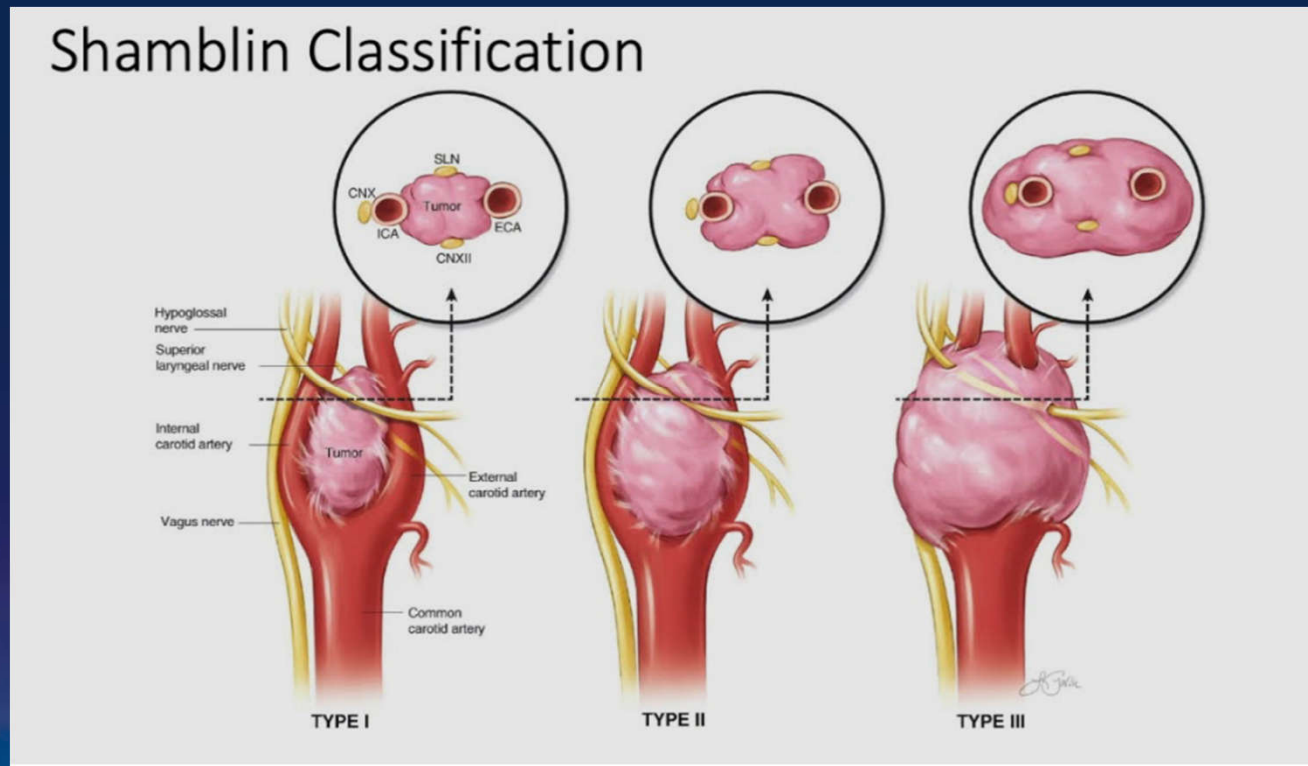
Identification of primary blood vessels and preoperative embolization intervention.

FNA or Biopsy: contraindication



SHAMBLIN CLASSIFICATION

- 3 Type : I, II, III



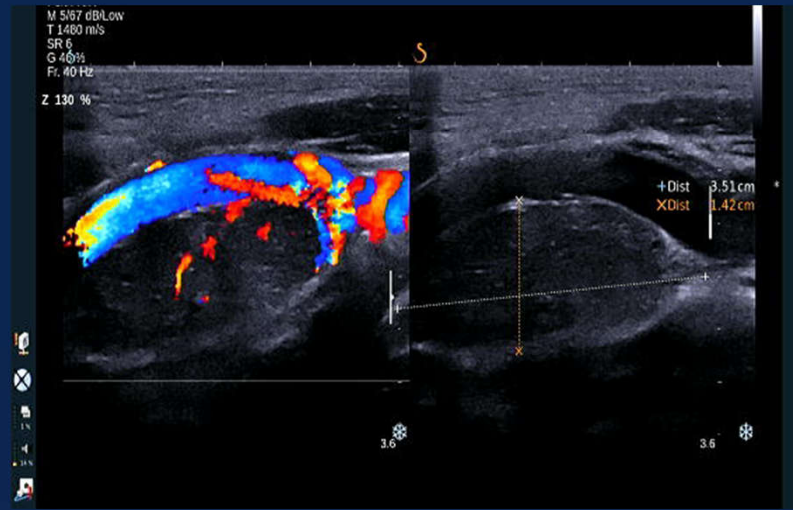
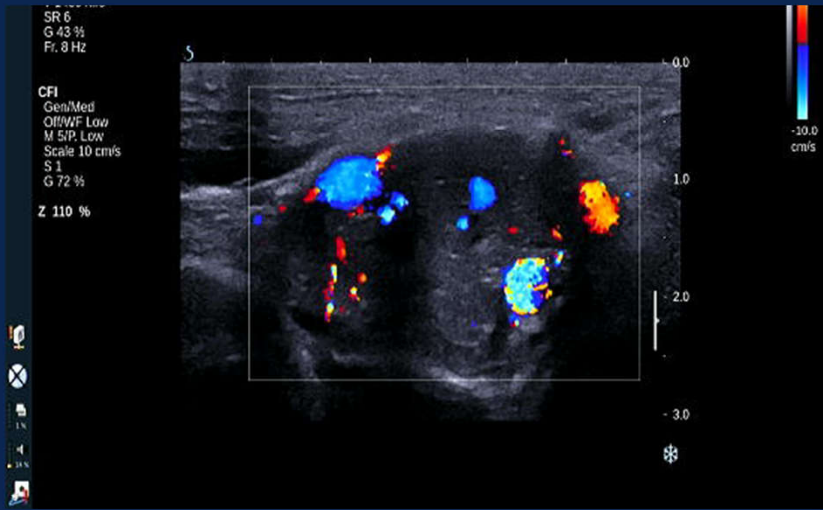


CASE 1

- 36 yo male patient
- Routin check up , no symtom.
- Ultrasound of the neck area detected a solid tumor of 3.6 x 4.6 cm in the right neck, hypoechoic , hypervascularization, splaying the internal and external carotid arteries, encase both ICA and ECA.



ULTRASOUND IMAGING



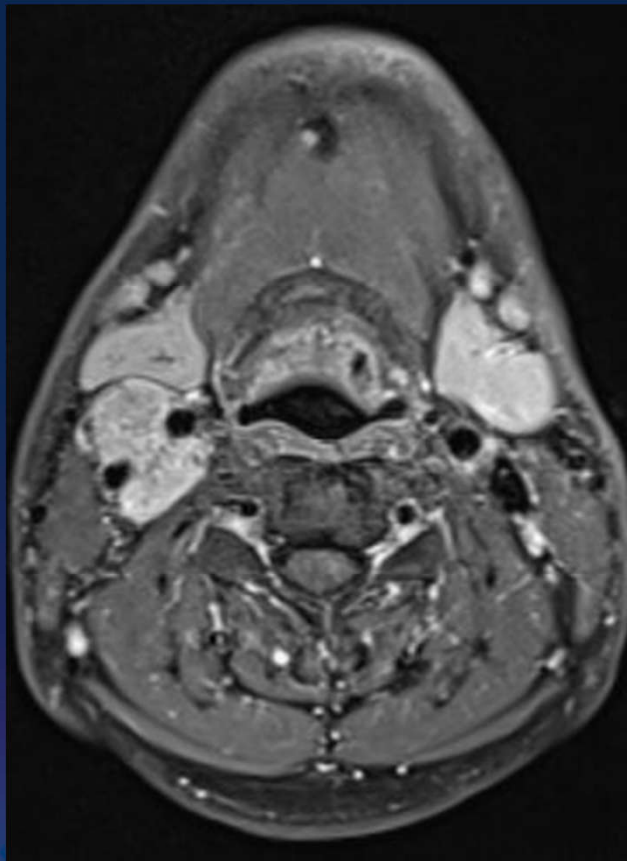
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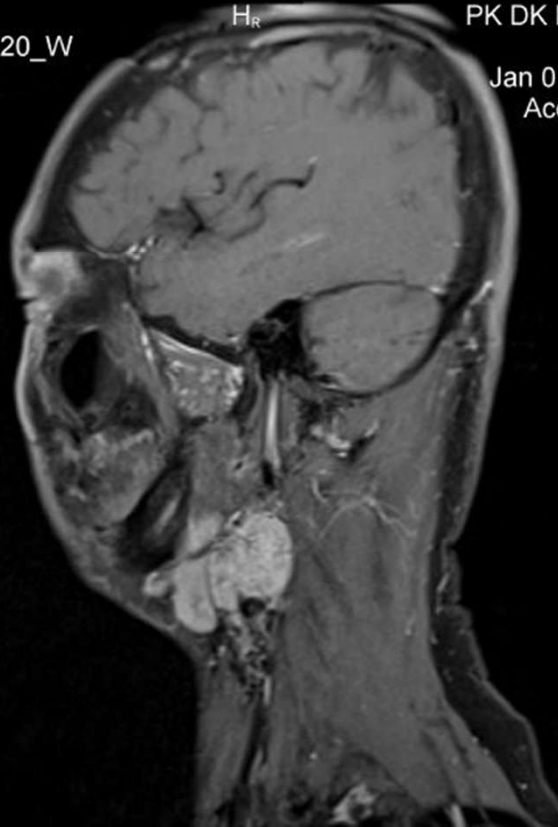




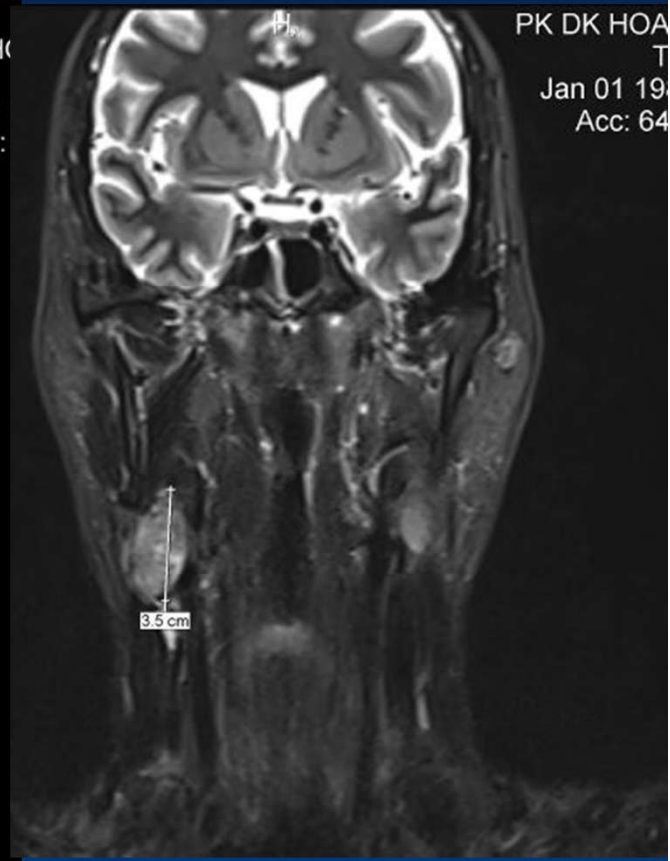
MRI



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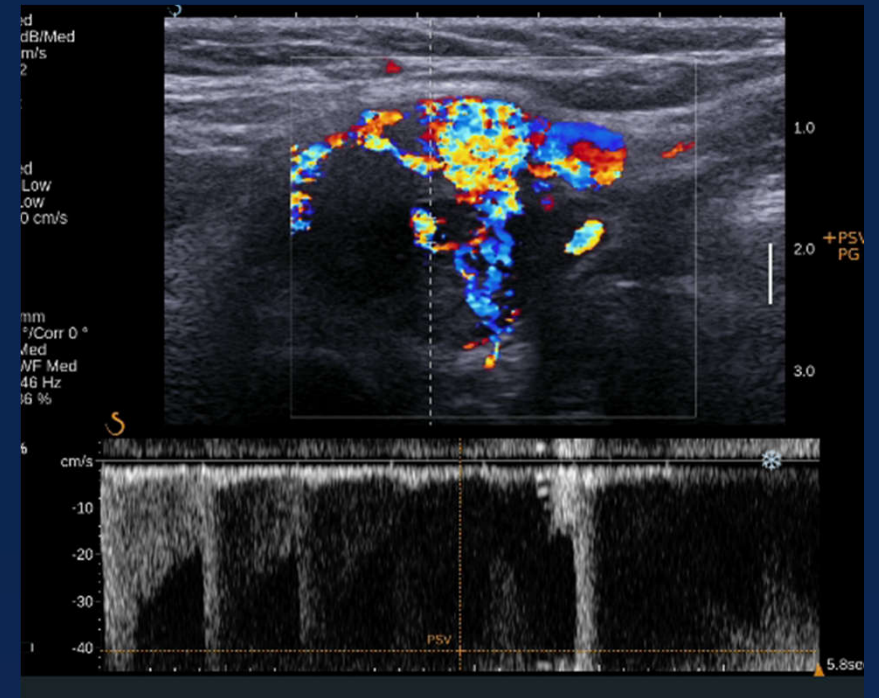
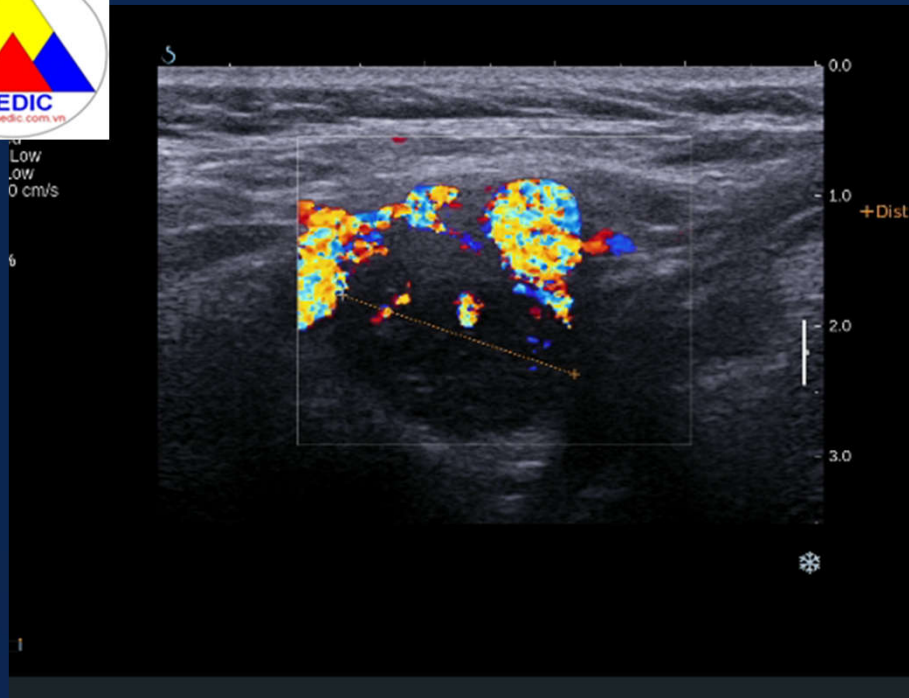
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CASE 2

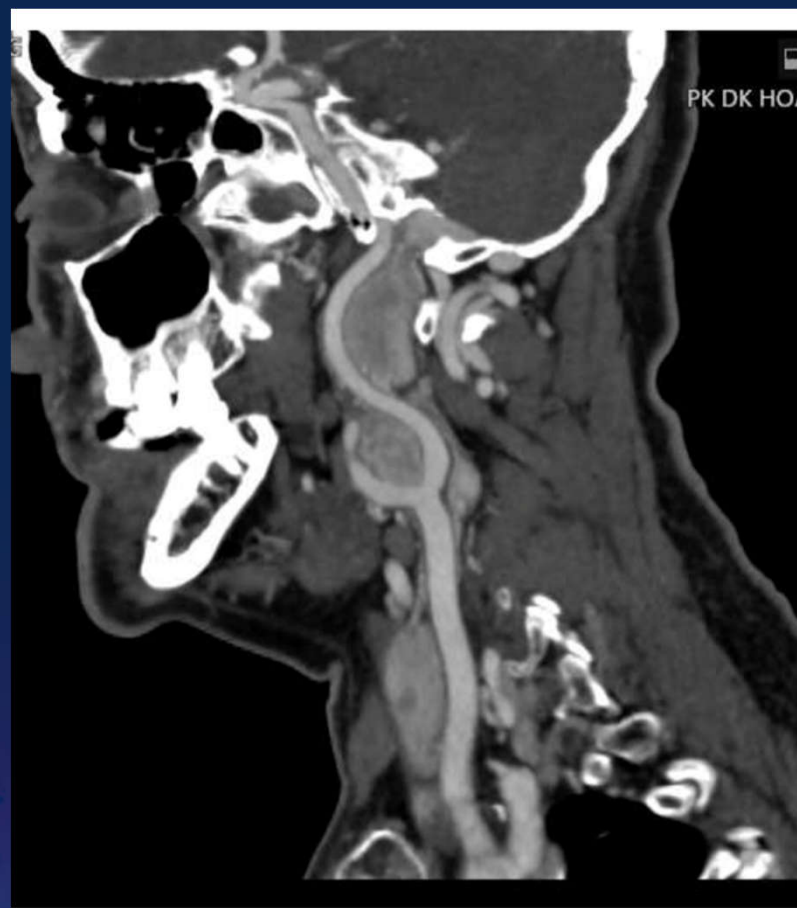
- 61yo female patient.
- The previous ultrasound accidentally detected a large tumor in the right neck for several years, thinking it was a benign lymph node.
- Recent symptoms: nervousness, sweating and fluctuating high blood pressure



Ultrasound images showed a solid tumor of 3 x 6 cm in the right neck, displaying the internal and external carotid arteries, tissue density, hypoechoic, a lot of high-flow blood vessels inside the tumor caused by AV shunting.



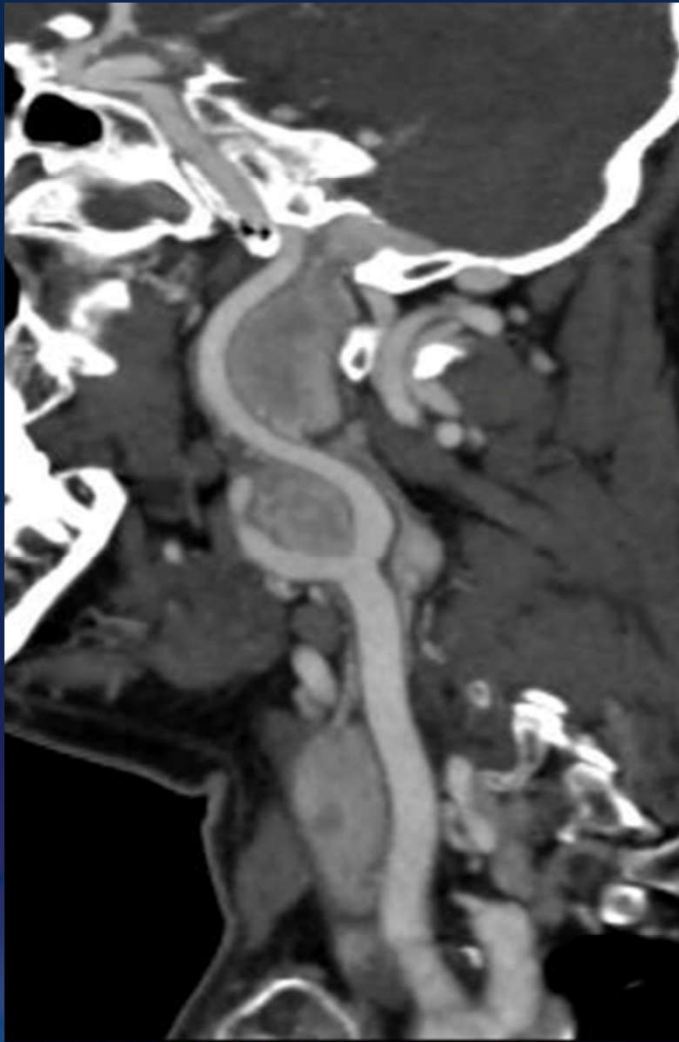
CT SCAN WITH CE



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SURGERY: total excision the tumor

TRÌNH TỰ PHẪU THUẬT/THỦ THUẬT Ê KÍP 1

Bệnh nhân nằm ngửa, mê NKQ
Rạch da máng cánh phải, bộc lộ đm cánh chung, cánh ngoài, cánh trong
Khối u thể cánh kích thước 3x6 cm kéo dài từ chạc ba đm cánh đến nền sọ, bao bọc đm cánh ngoài, trong đoạn xa TK XII
Bóc tách cắt trọn u thể cánh
Cầm máu, đặt dẫn lưu vết mổ
Đóng vết mổ theo lớp

LƯỚI ĐO PH
ĐƯỢC



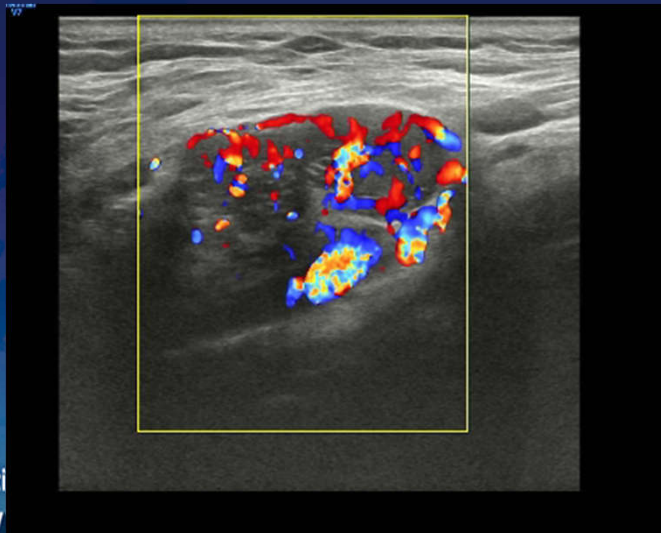
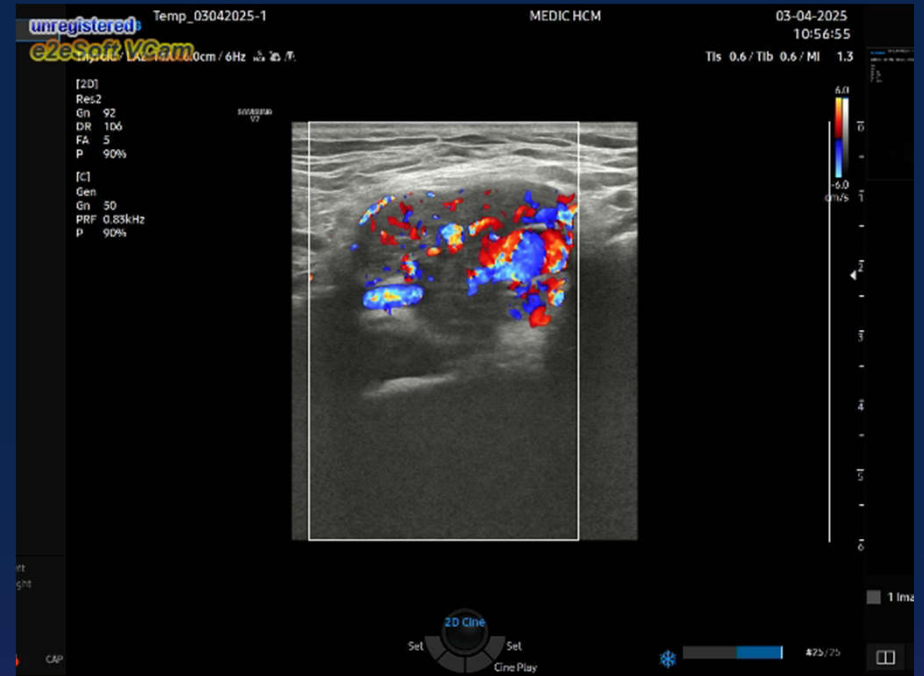
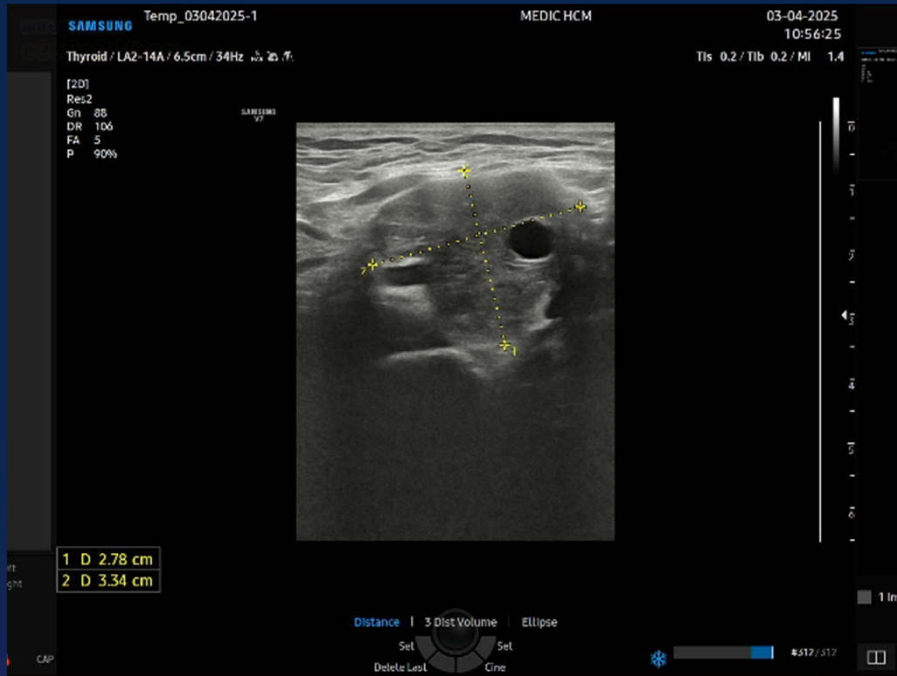
CASE 3

- . 40yo male patient
- . Incidentally, a periodic ultrasound of the neck area detected a solid tumor of 3.3 x 4.2 cm in the right neck, hypoechoic , splaying the internal and external carotid arteries, encase both ICA and ECA.





ULTRASOUND IMAGING



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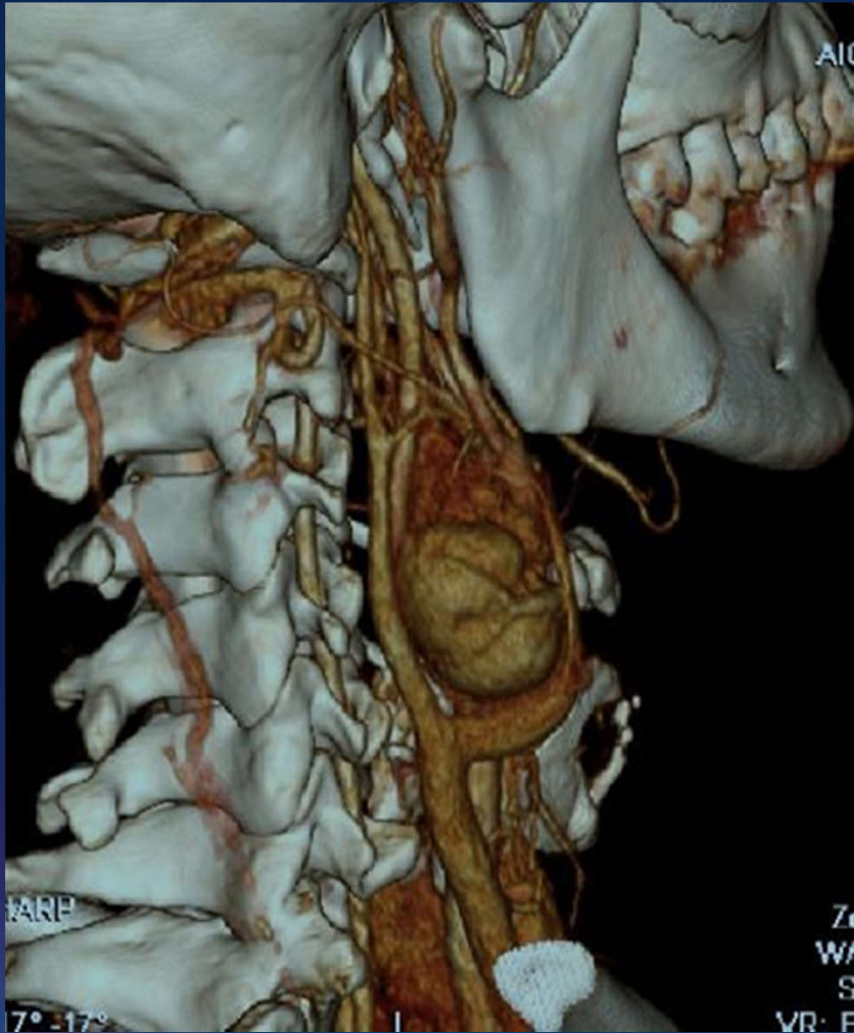
CT SCAN WITH CE



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CASE 4

- 41 yo male patient.
- Symptom: large tumor in the left neck for about 1 year, accompanied by slight dizziness when turning the head to the left side.

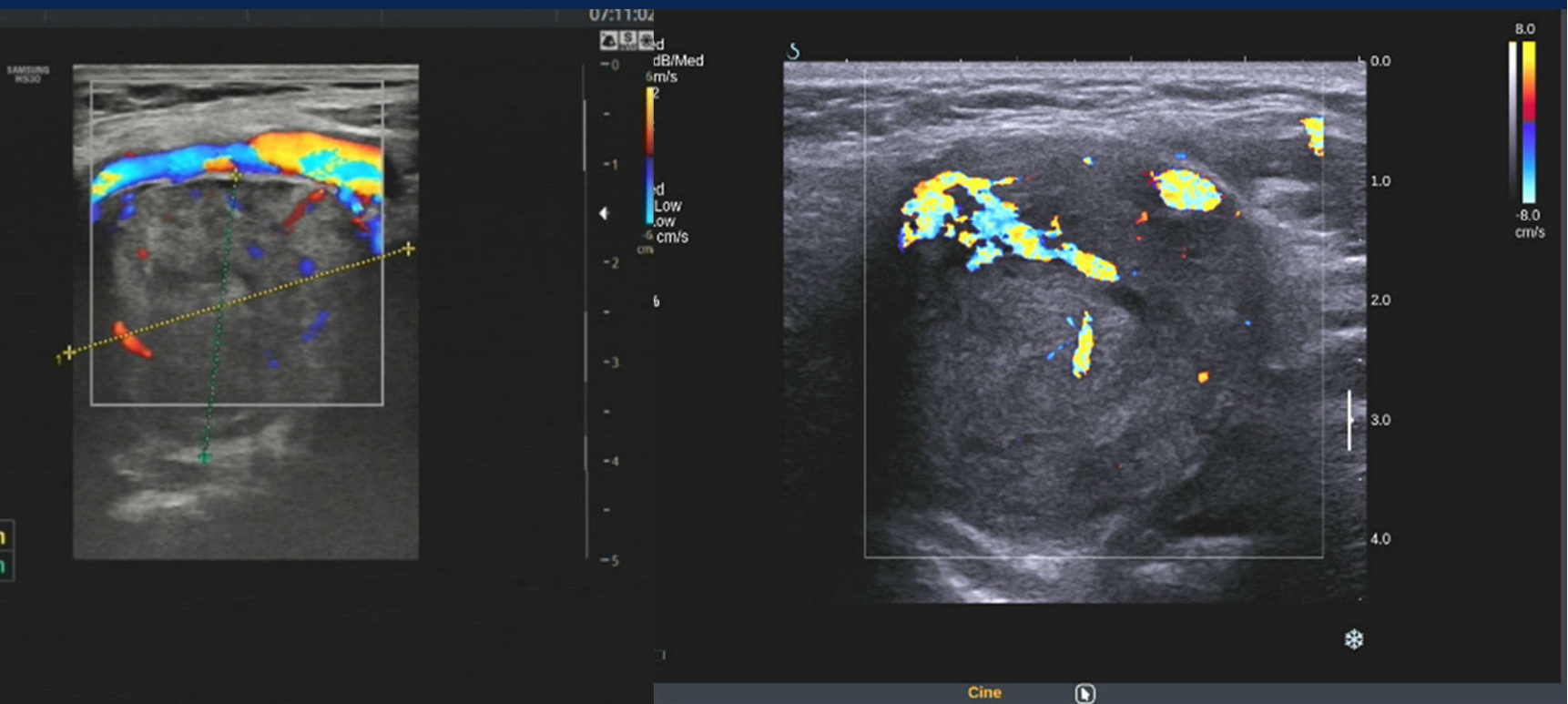




[2D]
Res
Gn 59
DR 120
FA 6
P 90%

[C]
Gen
Gn 45
PRF 1.3 kHz
P 90%

1 D 3.87 cm
D 2.86 cm

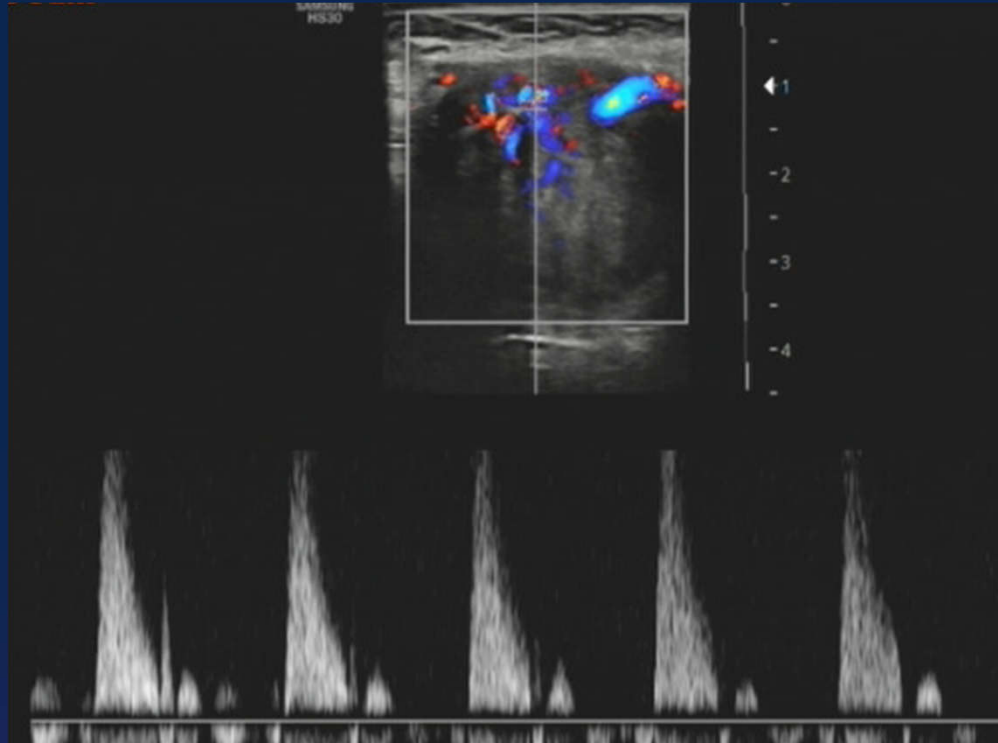


Ultrasound of the neck area detected a solid tumor of 3.2 x 3.5cm in the left neck, hypoechoic, heterogeneity, a lot of blood vessels feeding the tumor, splaying the internal and external carotid arteries. Encase both ICA and ECA

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A lot of blood vessels are fed mainly from the ascending laryngeal artery

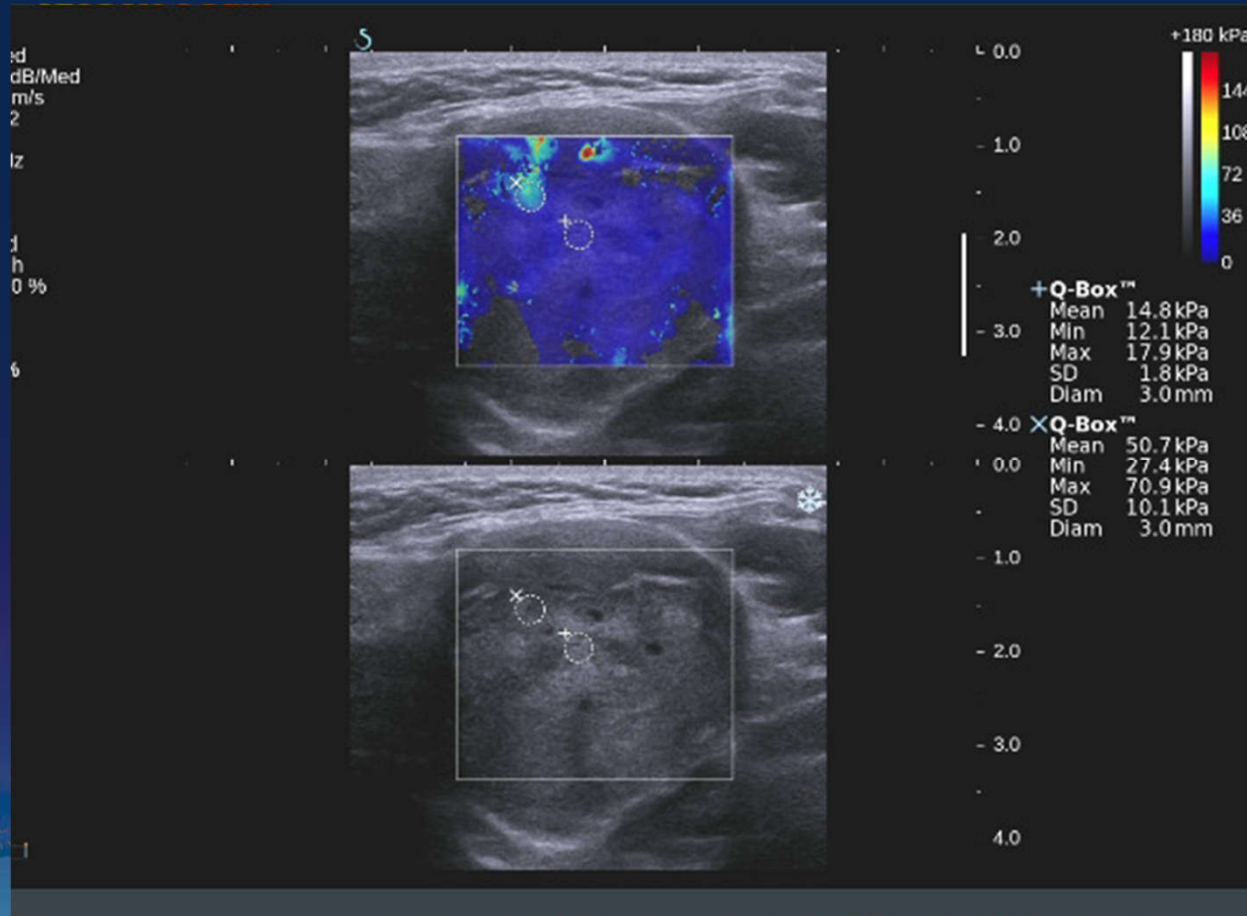
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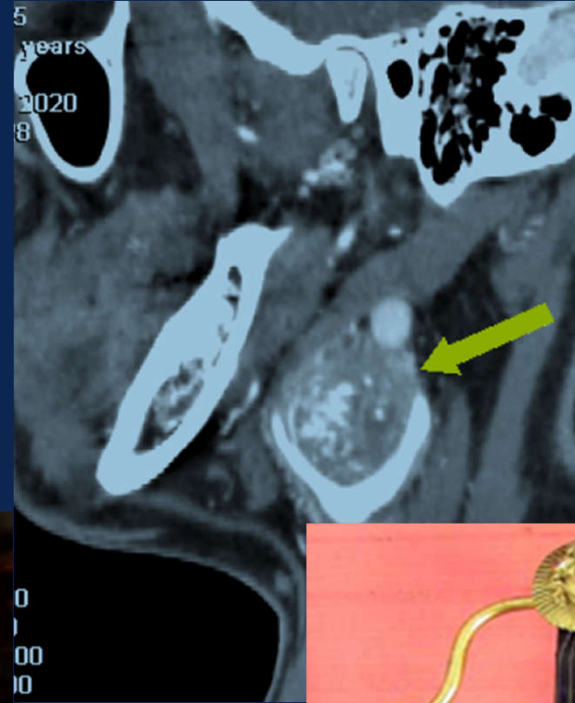
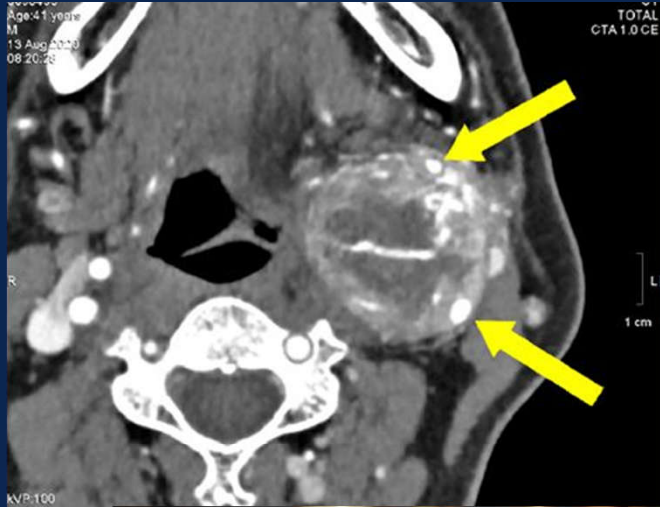


Ultrasound elasticity (SWE) has a hardness of 15 – 55 kPa, depending on the location.

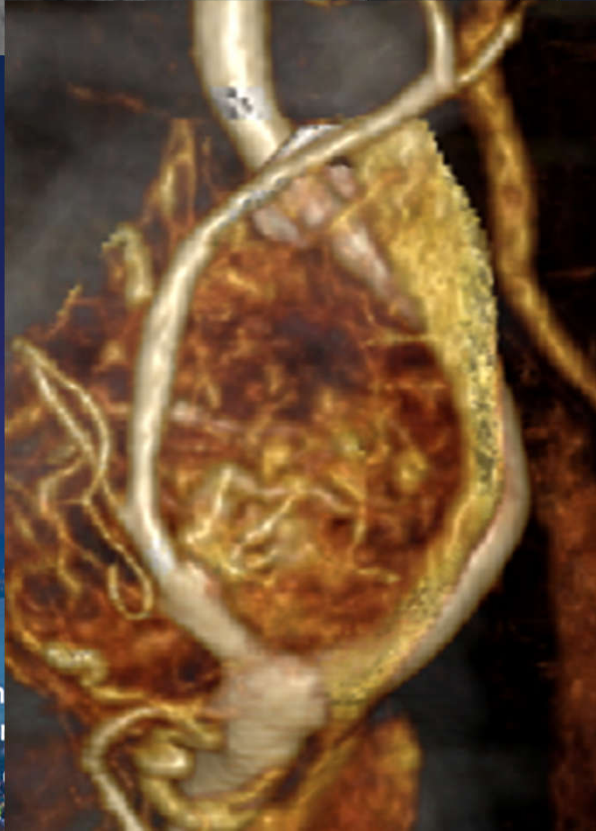




CT SCAN WITH CE



KVP: 100
mA: 200
msec: 800
mAs: 100
Thk: 1 mm



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DISCUSSIONS

- The tumor grows slowly and may or may not be symptomatic.
- This tumor is easily confused with other tumors in the neck region:
 - . Schwannoma: large tumor, central cystic formation, bird's beak sign at nerve attachment.
 - . Lymph nodes with rich vascular, metastatic lymph node.



CONCLUSIONS

- Ultrasound: high accuracy , invasive, non expensive, available
- These patient have large size tumor, Shamblin type III.
- None of our 4 patients have been malignant.
- The patient has recovered well after radiation therapy or surgery to remove the tumor.



References

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