FNA From a Submandibular Swelling with a Thyroid Swelling Masquerading as Metastaic Thyroid Malignancy- A Diagnostic Dilemma

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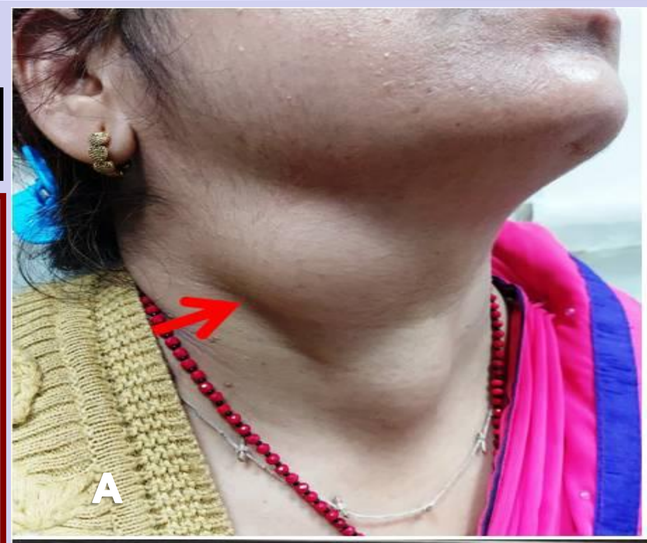
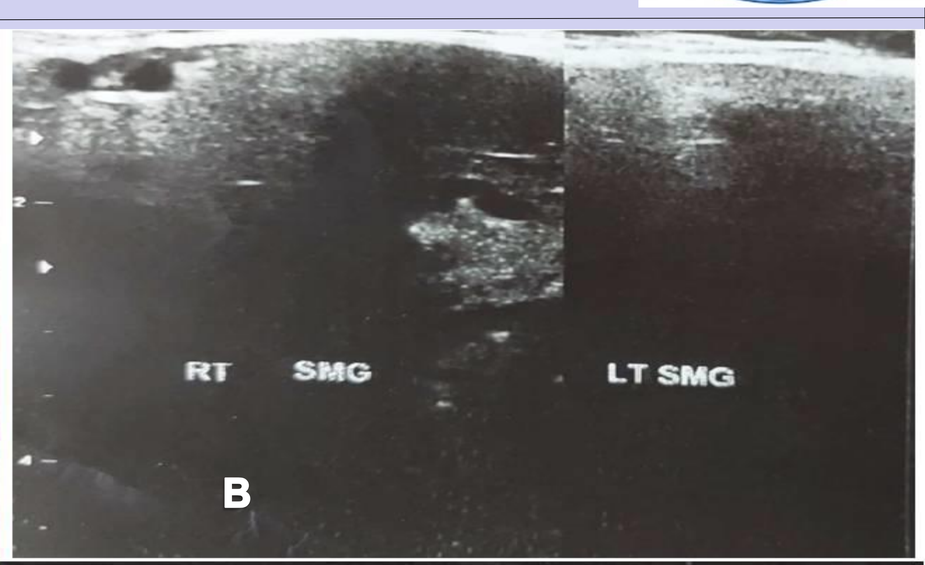
BACKGROUND

- Paraganglioma ia a rare tumour with incidence of 0.3/1,00,000.
- Arising from clusters of neuroendocrine cells in association with autonomic nervous system.
- It poses a diagnostic challenge because of its wide spread anatomical distribution,sublte clinical manifestation, and a variety of morphological patterns.

CASE REPORT

- A 45 year old woman presented with 3x2.5 cm right thyroid swelling for 2 months,accompanying 5x3 cm submadibular swelling with longer history of 8 years
- Clinically patient was suspected for thyroid malignancy with submandibular lymph node metastasis.
- Ultrasound revealed a cystic hyperechoic thyroid swelling and a hypervascular heterogenous hypoechoic mass at right angle of mandible of undetermined origin.
- FNAC performed from both the swelling. FNA of thyroid swelling showed colloid nodule(Bethesda category 2).
- Submandibular swelling aspirate predominantly showed hemorrhagic smears however few of smears were moderately cellular comprising of loosely cohesive clusters of tumour cells with microfollicle/rosette formation.
- Cells showed eccentric round to oval uniform nuclei with focal abrupt nuclear pleomorphism speckled chromatin, inconspicuous nucleoli and moderate amount of granular cytoplasm with indistinct cytoplasmic borders.
- Morphologically a neuroendocrine neoplasm was considered, however presence of follicle like structures made differentiation more difficult from metastatic thyroid follicular neoplasm.
- Immunocytochemistry for chromogranin A was performed with positive result. Diagnosis of paraganglioma was made with clinicoradiological correlation.





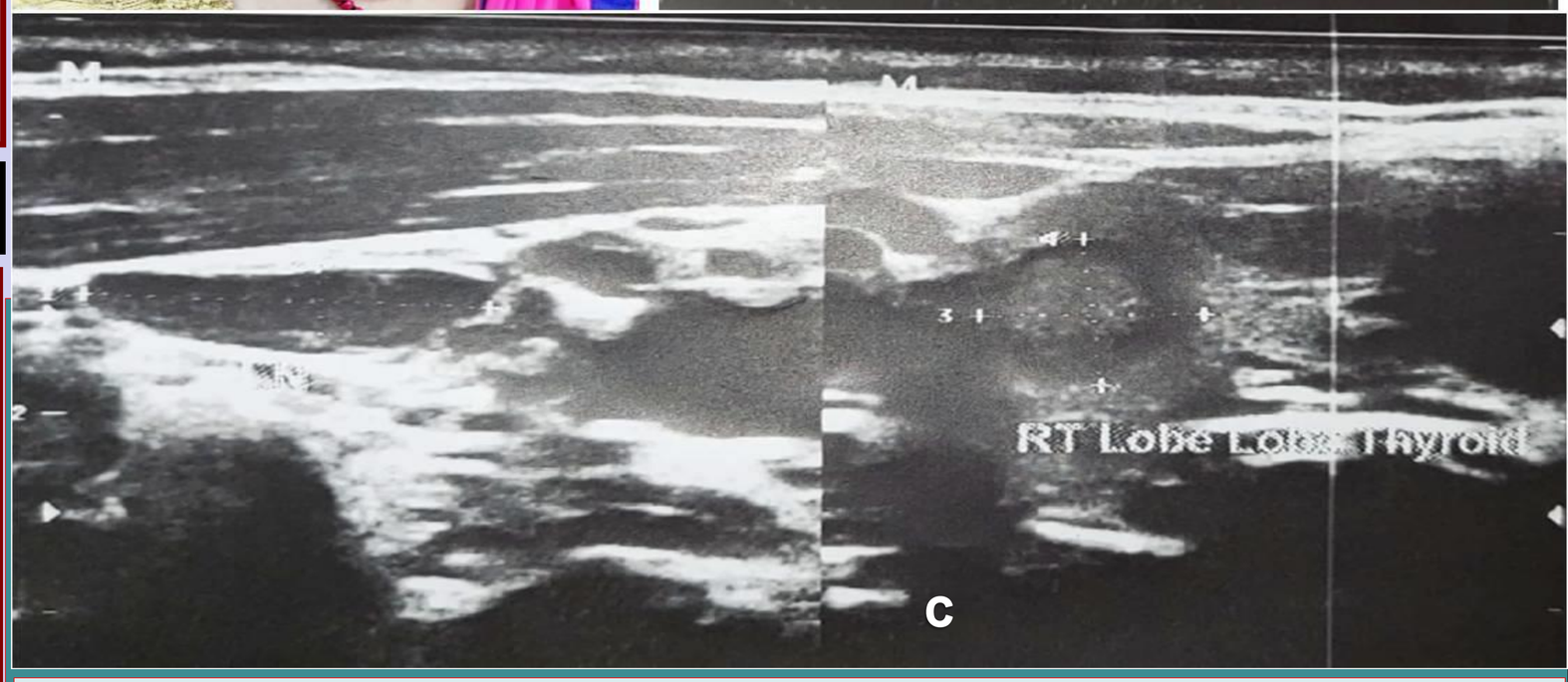


Fig A- Submandibular (Red arrow) and thyroid swellings
Fig B- USG of neck showing right submandibular hypoehoeic mass with hypervascularity
Fig C- USG of neck showing cystic hyperechoic thyroid swelling

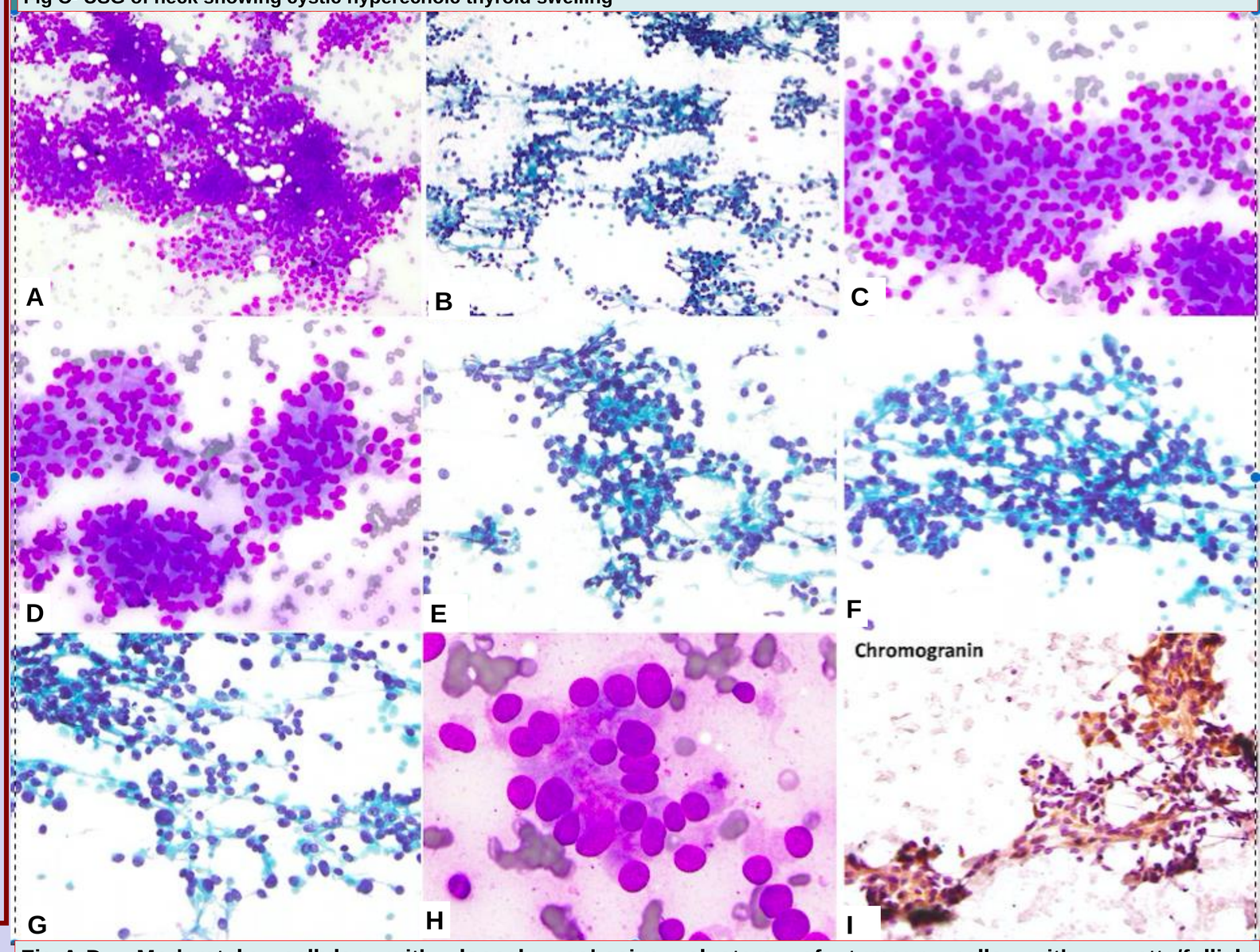


Fig-A-D- Moderately cellular with loosely cohesive clusters of tumour cells with rosette/follicle formation(MGG&PAP 20X) ; Fig E to G- Round to polygonal cells with stippled chromatin and abrupt nuclear pleomorphism (MGG&PAP 40X) ; Fig H- Eccentric round to oval nuclei, inconspicuous nucleoli and moderate amount of granular cytoplasm(MGG 100X) ; Fig I – Immunocytochemistry for chromogranin with strong cytoplasmic positivity(ICC 40X)

CONCLUSION

The head and neck is the most common extra-adrenal location for paragangliomas. The main differential diagnosis for a carotid body tumor presenting as a neck mass include a thyroid neoplasm, enlarged lymph node, branchial cleft cyst, parotid gland/salivary neoplasm, neurofibroma, or carotid artery aneurysm. Based on the cytomorphology, important considerations include other neuroendocrine tumors such as medullary carcinoma of the thyroid, neuroendocrine carcinoma, and hyalinizing trabecular tumor of the thyroid; keratins would be useful to aid in this distinction, being negative in paragangliomas and positive in neuroendocrine tumors.

REFERENCES

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