

HPV-associated Branchiogenic Carcinoma: A Unique Case with Clinical Insights and Implications



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BACKGROUND:

- Branchiogenic carcinoma, a rare malignant neoplasm arising from remnants of the branchial apparatus, typically presents as a lateral neck mass.
- This case involves a 59-year-old female with a 2-year history of right-sided neck swelling. Lateral neck masses can have various etiologies, including congenital anomalies, inflammatory conditions, and neoplasms.
- Branchial cleft cysts, the most common congenital neck masses, may be mistaken for benign lesions but can harbor malignancies .

HISTORY:

A 59-year-old female , who has type 2 diabetes mellitus, hypertension, and hypothyroidism with the following :
Presenting Complaint:
Right-sided neck swelling for 2 years.

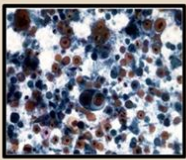
On Examination:

A 6x4 cm cystic, mobile, non-tender swelling was noted on the right side of the neck. Oral cavity, oropharynx, and nasal endoscopy were within normal limits.

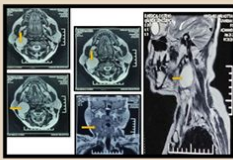


FIG. 1 A well-defined swelling of size 6x4 cm along upper third of anterior border of the sternocleidomastoid muscle
•Predominantly cystic with some solid areas
•Mobile, non-tender

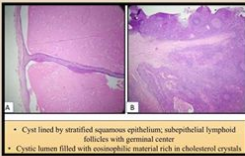
INVESTIGATIONS



● FNAC: Cystic lesion with macrophages and inflammatory cells; no malignant cells.



● MRI Neck: Complex cystic lesion with solid components in the right suprahyoid parapharyngeal space, compressing adjacent structures.



• Cyst lined by stratified squamous epithelium, subepithelial lymphoid follicles with germinal center
• Cystic lumen filled with eosinophilic material rich in cholesterol crystals

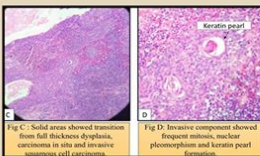


Fig C : Solid areas showed transition from full thickness dysplasia, carcinoma in situ and invasive carcinoma, rich vascularity.
Fig D: Invasive component showed frequent mitoses, nuclear pleomorphism and keratin pearl formation.

MANAGEMENT:

Surgical Intervention: Excision under general anesthesia.



Post operative Adjuvant Radiochemotherapy

DIFFERENTIAL DIAGNOSIS:

- CYSTIC METASTATIC CERVICAL DISEASE
- LYMPHOMA WITH CYSTIC DEGENERATION
- BRANCHIOGENIC CARCINOMA
- LYMPHNODE WITH NECROTIC GRANULOMATOUS INFLAMMATION

DISCUSSION:

Branchiogenic carcinoma is a rare malignancy that arises from remnants of the branchial apparatus, typically presenting as a lateral neck mass. Though branchial cleft cysts are usually benign, malignant transformation is possible, as seen in this case. HPV, particularly high-risk strains, is increasingly recognized as a contributing factor in head and neck cancers, including those arising from branchial cleft cysts. This link is supported by P16 positivity in immunohistochemistry, a known marker for HPV involvement.

CONCLUSION:

This case underscores the importance of a thorough diagnostic workup for persistent neck masses, even those that initially appear benign. HPV-associated branchiogenic carcinoma, confirmed by P16 positivity and histopathology, highlights the potential for malignancy in branchial cleft cysts. Early recognition and surgical excision are crucial for effective treatment and to prevent progression of this rare condition