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Fine Needle Aspiration of “Squamous cell containing” cystic lesions of the Lateral neck lesions: Experience at a Tertiary Academic Medical Center

Introduction:

Cystic lesions of the lateral neck containing squamous cells often pose a diagnostic dilemma for cytopathologists. The differential ranges from benign cystic lesions such as branchial cleft cysts (BCC) to metastatic squamous cell carcinoma (MSCC) with cystic degeneration. Such differentiation on clinical grounds is not always possible and therefore heavy reliance is placed on fine-needle aspiration (FNA) for optimal patient management. The reported false-negative of FNA in the diagnosis MSCC in cystic lesions ranges from 50% to 67%. In view of this conundrum, we reviewed our experience with cystic lesions of the lateral neck. The current study analyzes cytomorphologic and clinical features of BCCs and MSCC that may aid in differentiating between the two.

Material and Methods:

The cytofiles at The Johns Hopkins Hospital was searched for FNAs of lateral cystic neck lesions. Selected cases of BCCs (12) and MSCC (17) were retrieved. The cases and clinical information were reviewed and the pertinent features were documented.

Results:

The cytomorphologic features other than overt malignant features most helpful in distinguishing MSCC from BCC were necrosis (11/16 or 69% of MSCC cases, and 2/12 or 17% of BCCs), abnormal keratinization (13/16 or 81% of MSCC cases, and 1/12 or 8% of BCCs), and the presence of abundant benign squamous cells (0/16 or 0% of MSCC cases, and 8/12 or 75% of BCCs). Inflammation, histiocytes, and cellularity are not helpful in distinguishing MSCC and BCCs. The average age of patients diagnosed with MSCC was 60.9 years (range 41-96) with a male to female ratio of 11/5, whereas the average age of those diagnosed with BCC was 35.75 years (range 1-57) with a male to female ratio of 5/7.

Conclusions:

1) The most useful cytomorphologic features in distinguishing MSCC from BCCs are necrosis, abnormal keratinization, and presence of abundant benign squamous cells. 2) A diagnosis of MSCC should not be made in the absence of unequivocal malignant features because of significant cytomorphologic between inflamed BCCs and MSCC. 3) Patients with MSCC are significantly older with a higher male to female ratio than those with BCCs. 4) In equivocal cases a recommendation to locally excise with intraoperative frozen section should be given.

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