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Case Report

Cystic metastatic squamous cell carcinoma - A case report

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Abstract

Fine-needle aspiration cytology (FNAC) has been shown to be very useful in the preoperative evaluation of neck masses. Cystic change in metastatic lymph nodes occurs in certain types of tumors and it is an unexplained, site-specific phenomenon that mostly happens in the lymph nodes of head and neck region. It is suggested that cases of cystic squamous carcinoma metastases to cervical lymph nodes may be determined by cytological examination of fine needle aspirates. The importance of interpretation of fine needle aspiration cytology by an experienced cytologist is emphasized to avoid the possibility of excising metastatic squamous cell carcinomas, which could lead to unnecessary surgical procedures such as radical neck dissection.

Key words

Fine-needle aspiration cytology, Lymph nodes, Metastatic squamous cell carcinomas.

Introduction

Cystic change in metastatic lymph nodes occurs in certain types of tumors and it is an unexplained, site-specific phenomenon that mostly happens in the lymph nodes of head and neck region. It is also found with decreasing frequency in the inguinal, axillary and supraclavicular regions. Metastatic disease to the lymph nodes of the neck is an important clinical and pathologic consideration. FNA is a reliable procedure in the determination of the malignancy within the cyst. It is suggested that cases of cystic squamous carcinoma metastases to cervical lymph nodes may be determined by cytological examination of fine needle aspirates [1, 2]. Here we have presented a case of the neck mass which was diagnosed as cystic metastatic SCC on FNAC.

Case report

A 53 years old male patient presented to surgery outdoor patient department (OPD) with 6×5 cm

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right upper neck mass located just below to ear lobule for 3 months. **(Photo – 1)** His physical examination revealed a palpable, non-pulsatile, partially cystic partially solid mass which was fixed to the underlying structures at posterior aspect of right mandibular angle. FNAC was advised by the clinicians and it was performed at cytology clinic using a 22-guage needle attached to a 10 ml syringe [3-11]. On aspiration, 35 ml dirty turbid fluid was aspirated **(Photo – 2)** and the procedure was repeated from the solid area of the swelling. The smears were stained with Pap and hematoxylin and Eosin (H & E) stain. The microscopic examination revealed sheets of malignant squamous cells with presence of marked anaplasia and many abnormal mitotic figures. **(Photo – 3)** There was also presence of extracellular keratin material along with nucleated squames. **(Photo – 4)** The smears from the fluid showed plenty of neutrophils and malignant squamous cells with presence of tumor giant cells. **(Photo – 5)** Overall cytomorphological features were that of metastatic squamous cell carcinoma.

Photo – 1: Right upper neck mass.

Photo – 2: Aspirated fluid.

Photo – 3: Sheets of malignant squamous cells. (40X, H & E Stain)

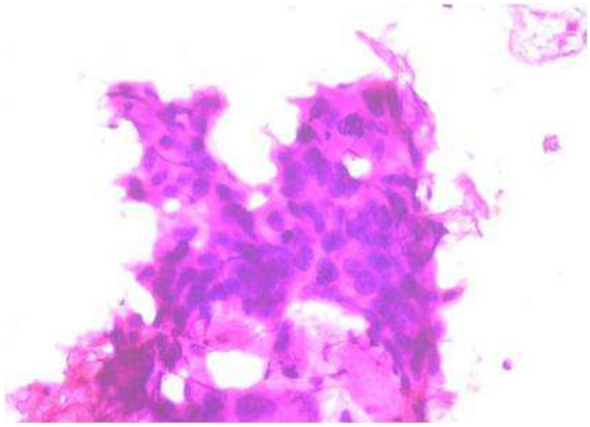

Photo – 4: Presence of extracellular keratin material along with nucleated squames. (40X, H & E Stain)

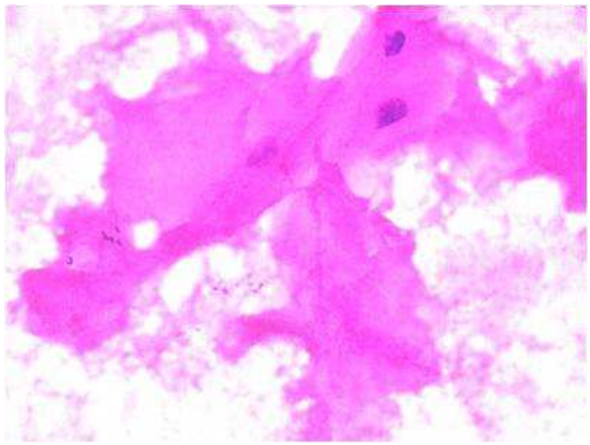

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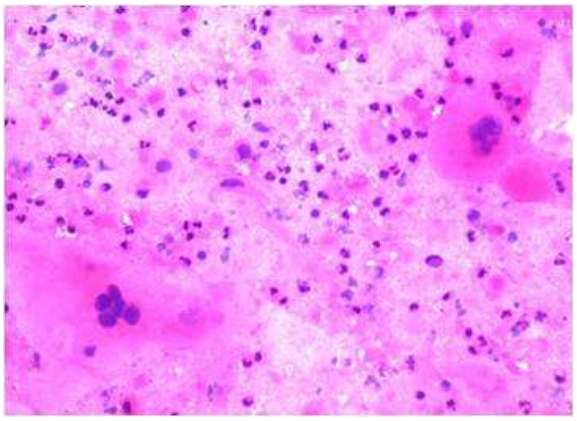
Photo – 5: Plenty of neutrophils, malignant squamous cells with presence of tumor giant cells. (20X, H & E Stain)



Discussion

Fine-needle aspiration (FNA) cytology has been shown to be very useful in the preoperative evaluation of neck masses [12]. Fine-needle aspiration cytology is an accurate technique for evaluating enlarged, solid, cervical nodes with very low (1-3%) false-positive and false-negative rates [13]. However, in cystic lesions, it may be difficult, or sometimes impossible, to distinguish between benign and malignant squamous cells in aspirates [14, 15], on the one hand, this diagnostic dilemma is related to reactive squamous atypia secondary to superimposed super imposed inflammation; this atypia can closely simulate a squamous malignancy [16]. Conversely, metastatic SCC may be well differentiated and display cytologically bland features that mimic benign lesions, such as keratinous cysts or epidermal inclusion cysts [17].

Cystic SCC in metastatic cervical lymph nodes is now considered as a typical presentation of SCC arising in the oro/nasopharynx [18]. Cystic SCC metastasis are generally not associated with the usual risk factors of smoking and alcohol abuse [19], and they often present in a younger patient population than those with solid metastatic SCC [20]. Primary SCC tumors that produce these malignant cysts often do so very early, at times discovered before presentation of a primary tumor itself. The mechanism of cyst formation in cystic metastases has not been fully explained [15, 18, 21, 22]. It has been suggested that this phenomenon is secondary to pseudo cystic change and results from spontaneous degradation of keratin and cellular debris within the carcinomatous lymph node deposit [2]. Probably cyst formation in these cases could also be related to the sudden blockage of lymphatic flow passing through a node that has metastatic colony. This lymphatic fluid fills a potential space, which have tumor cells in periphery. [23]

Detecting malignancy within a cyst can be difficult for a variety of reasons. Imaging such as CT, MRI, and ultrasonography and more recently positron emission tomography (PET)/CT25 can detail the size and morphology of cervical lymph nodes. Although these imaging techniques can show suggestive features of malignancy, they are often inconclusive, and the absence of a clinically detectable primary tumor makes the diagnosis more difficult.

Sheahan, et al. [24] found FNA to be a helpful tool in the assessment of cystic metastatic lesions, citing a sensitivity of 73%in the diagnosis of malignancy. A false-negative FNA cytology finding is likely to delay both the search for a primary tumor and adequate therapy. In contrast, the consequences of a false-positive diagnosis of metastatic SCC on FNA may include unnecessary surgical procedures such as radical neck dissection.

Conclusion

We can conclude that diagnosis of cystic metastatic SCC is difficult by imaging techniques. CT, MRI, and ultrasonography can show suggestive features of malignancy. FNAC is quite

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useful and highly sensitive tool for the diagnosis but the cytological appearances of an FNA sample may require interpretation by an experienced cytologist.

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