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A FNAC Case of Metastatic Cystic Papillary Carcinoma of the Thyroid Simulating Parotid Tumor

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Although fine needle aspiration cytopathology (FNAC) is now widely being used to diagnose many pathological lesions it was recently started in our university teaching hospital, which is a 10 year old developing institution located in the town of Antalya on the Mediterranean coast of Turkey.

One of the authors (NP) received one year subspecialty training in cytopathology abroad (Norwegian Radium Hospital, Oslo). At the same time two radiologists were also trained in interventional procedures. Before we provided the fine needle aspiration it was never applied in our institution. Over 2 years, the number of cases has already exceeded 1000. Except a few 'false negative' cases mainly due to non-representative material we have,

so far, no 'false positive' case. Despite the acceptance of the procedure is gradually increasing, we are very much aware that false diagnosis (especially positive one) can easily create scepticism among our clinical colleagues. It is well reported that aspiration of adequate and representative material as well as accurate interpretation are essential criteria for successful FNAC.

In connection with above-mentioned points we have recently encountered a FNAC case and we would like to present it in order to share our experience with the readers concerned.

A 65 year old woman was referred by surgeon to the cytopathologist for FNA. Patient was operated twice due

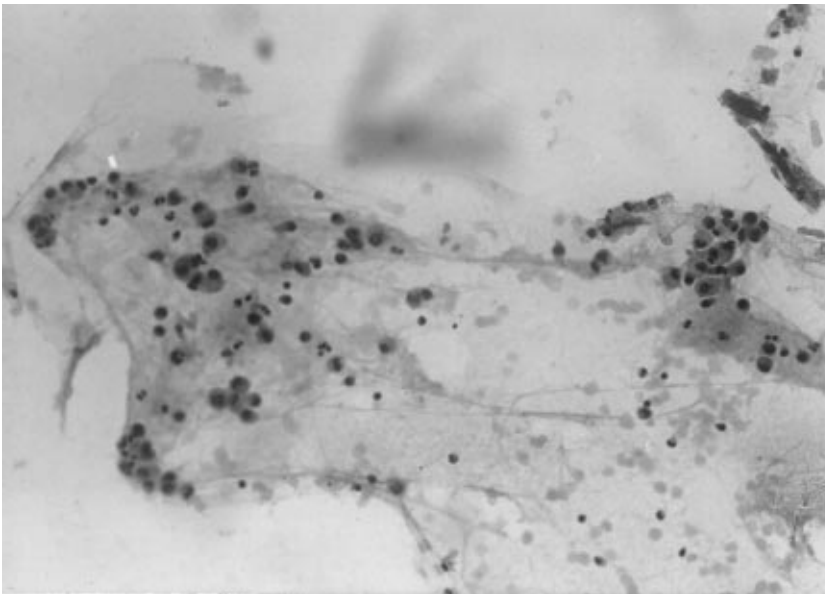


Figure 1. Microphotograph showing plenty of hemosiderin laden macrophages and occasional epithelial cells (hematoxylin and eosin; X10)

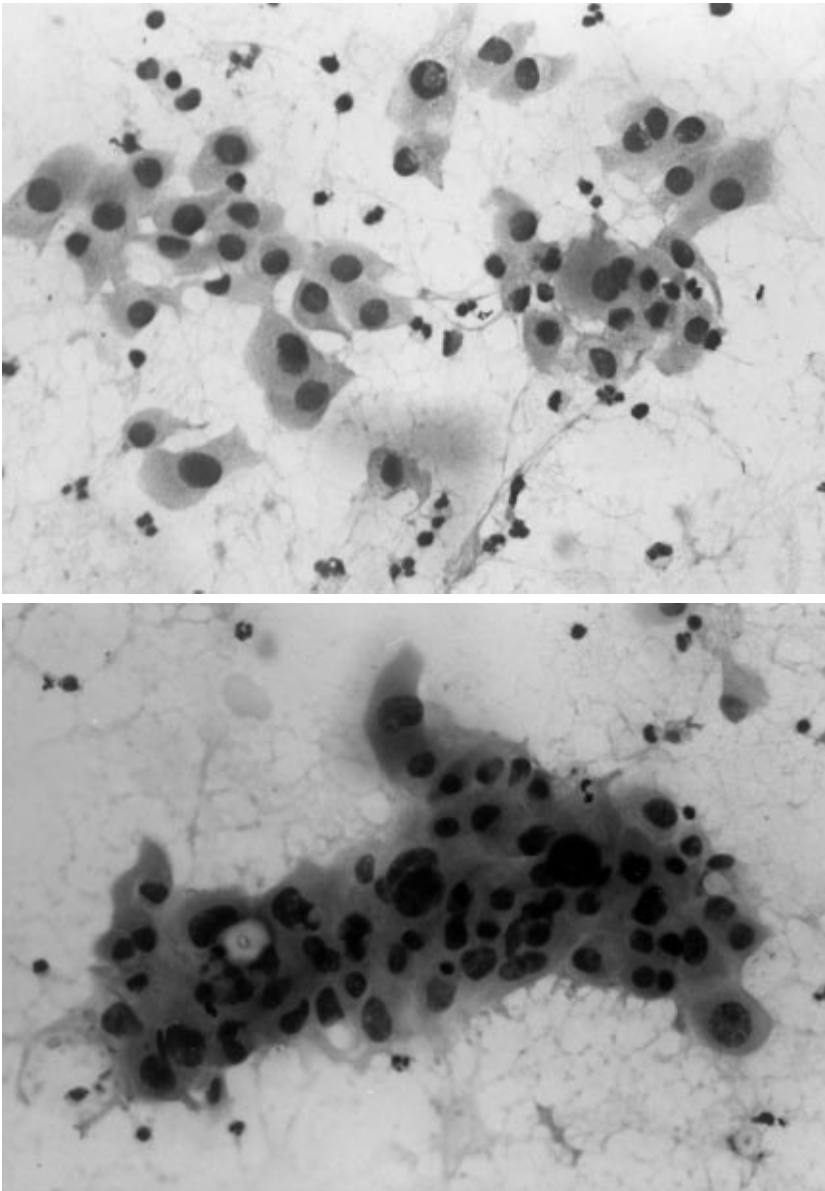


Figure 2 a,b. Microphotograph showing a cluster of tumor cells consistent with papillary carcinoma of the thyroid. Note the cells with an intranuclear vacuole (hematoxylin and eosin; X40).

to papillary carcinoma of the thyroid. She presented with a swelling in the left parotid region. A firm mass was palpated around the parotid gland, extending to the submandibular region. Surgeon's differential diagnosis included thyroid metastatic papillary carcinoma, anaplastic transformation of the previous thyroid tumour and salivary gland tumour. 10 cc serous pink cystic fluid was aspirated. Another attempt was done from the solid are adjacent to the cystic lesion. Slides stained with HE showed plenty of hemosiderin laden macrophages and occasional epithelial cells resembling oncocytes (Figure 1). Some of these cells revealed fine intranuclear vacuoles and criteria for atypia such as huge hyperchromatic nuclei, inconspicuous nucleolus, usually in clusters.

At first, abundant cystic material and sparse oncocyte-like epithelial cells were thought to be a possible of Warthin's tumour, but atypia of the epithelial cells gave us rise to a suspicion of malignancy. A possible of cystic papillary carcinoma was also not excluded, considering the patient's history. Therefore, before reporting, a repeat aspirate under ultrasound guidance was carried out. Slides from this aspirate were hypercellular. Cytological picture consisted of abundant papillary clusters of cells, monolayered sheets of cells with dense cytoplasm and pale nuclei, macrophages and debris. Some cells showed intranuclear vacuoles (Figure 2 a, b). These findings were found to be consistent with papillary carcinoma of the thyroid (1, 2).

Cystic papillary tumours usually yield some fluid; this may closely resemble material from a simple cyst. If macrophages and debris predominate, there is a risk of overlooking malignancy (3, 4). In addition, the mass was located in the parotid region in our case. Cystic aspirate with abundant macrophages, stromal lymphocytic infiltration and oncocyte-like cells may create confusion with Warthin's tumour (5). Noting atypia in the epithelial cells, bearing in mind that the cystic change in papillary carcinoma simulates degenerative cysts and patient's history prompted us to repeat the aspirate. Finally our caution saved us from overlooking malignancy and making a false negative result. In this case, false negative

report would result in unnecessary operation (due to parotid tumour), delay in actual treatment.

We have considered this experience as a good example in order to show that representative material and experienced/trained cytopathologist are necessary for accurate FNAC service. Secondly, caution is very important before reporting FNAC results where FNAC has just started.

In summary, we attempt to provide justification for accuracy in fine needle aspiration diagnosis based on a repeat aspirate under ultrasonographic guidance and conclude the accuracy of our results based on repeat findings.

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