Papular skin lesions: Clue to a recurrence of breast cancer on fine needle non-aspiration cytology (FNNAC)

ABSTRACT
Cutaneous metastasis from underlying carcinoma is relatively uncommon in clinical practice. A high index of suspicion is required to diagnose these lesions, as these lesions can mimic benign skin lesions and clinical findings may be subtle. Fine needle aspiration cytology (FNAC) is commonly employed for diagnosing these skin lesions. However, it is often difficult to aspirate adequate material from small papular lesions. In these clinical situations, fine needle non-aspiration cytology (FNNAC) is proposed as an alternative procedure. FNNAC eliminates the negative suction pressure employed in FNAC and decreases the dilution of tumor cells by blood and hence yields adequate diagnostic material. We report here a case in which FNNAC was used in place of FNAC in diagnosing papular skin lesions. This procedure was carried out in a treated patient of carcinoma breast who was on regular follow-up and presented to us with a 20-day history of papular skin lesions over her chest and back. This article enlightens the clinicians about the utility of FNNAC, which is a relatively uncommon procedure.

Key words: Breast cancer; fine needle non-aspiration cytology; papular skin lesions

Introduction
Cutaneous metastasis (CM) from underlying carcinoma is relatively uncommon in clinical practice, 5.3%. Breast carcinoma (69%) is the most common cause of CM in women, followed by carcinoma of the large intestine (9%), lungs and ovaries (4%). These lesions often mimic benign skin lesions and present as localized nodules (most common), cicatricial plaques, fibrotic plaques, alopecia neoplastica, zosteriform eruptions and bullous lesions. A high index of suspicion is required to diagnose these lesions as clinical findings may be subtle. Fine needle aspiration cytology (FNAC) is commonly employed for diagnosing these skin lesions. However, it is often difficult to aspirate adequate material from small papular lesions. In these clinical situations, fine needle non-aspiration cytology (FNNAC) is proposed as an alternative procedure. FNNAC eliminates the negative suction pressure employed in FNAC and decreases the dilution of tumor cells by blood and hence yields adequate diagnostic material.

We report here a case in which FNNAC was used in place of FNAC in diagnosing papular skin lesions. This procedure was carried out in a treated patient of carcinoma breast who was on regular follow-up and presented to us with a 20-day history of papular skin lesions over her chest and back.

Case Report
A 48-year-old woman was diagnosed with invasive ductal carcinoma of the left breast 4 years ago. She received neoadjuvant chemotherapy, followed by left modified radical mastectomy. After that, she underwent adjuvant chemotherapy and radiotherapy. She was put on hormone therapy and was on regular follow-up for the last 4 years.

From the last 20 days, she was complaining of painful erythematous papular skin lesions over her chest and back.
Physical examination revealed multiple round-oval papulovesicular, tender cutaneous lesions ranging in size from 0.2 cm to 0.5 cm in the background of diffuse erythema, scattered over the left side of the chest wall, anterior abdominal wall and back [Figure 1]. The remainder of the physical examination was unremarkable.

A high index of suspicion for recurrence was made and the patient was advised for FNAC by the clinician.

Fine needle aspiration was not successful in this case as the lesions were very small, difficult to fix and yielded inadequate material. Alternatively, FNNAC was performed from the chest wall and back lesions to get adequate material.

Cytology findings were similar from both sites and revealed sheets of pleomorphic cells with a high nucleo-cytoplasmic ratio and prominent nucleoli forming a glandular pattern [Figure 2]. Diagnosis of cutaneous metastases from breast carcinoma (CMBC) was suggested.

**Discussion**

CM from patients of breast carcinoma is not rare, and it is reported in around 23.9% of cases. In most of the cases, it appears within 5 years after the excision and is usually nodular.[6] They can be single or multiple and are usually 1.5-2.0 cm in size.[7] Our patient had CMBC of papulovesicular type in an erythematous background. Such metastases offer an easily accessible tissue sample for rapid cytopathological diagnosis. The peculiar feature in our patient was the presence of very small (<0.5 cm) and extensive papulovesicular skin lesions that were difficult to fix and aspirate. Consequently, only blood was found in the aspirated material on repeated attempts. Hence, an alternative technique of FNNAC was performed. FNNAC is also called cytopuncture or fine needle capillary sampling. It was first used in France in 1982[8] for breast tumor and later for thyroid, orbital, periorbital and cutaneous tumors. FNNAC sampling eliminates the negative suction pressure employed in FNAC, resulting in less dilution by blood.[9] The important advantages of FNNAC sampling are easy operation and control over operating hand, especially for neck, breast, cutaneous or subcutaneous tissues.[10]

In our case, FNNAC provided an adequate sample for cytological diagnosis. Maurya et al.[10] in his study also found that non-aspiration sampling has more cellular material, less blood, less cellular trauma and better retention of architecture. However, he concluded that better diagnostic accuracy can be achieved by combining both the techniques.

**Conclusion**

This article enlightens the clinicians about the utility of FNNAC, which is a relatively uncommon procedure. However, it is indicated in certain clinical situations like in this case.

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