

Cytological diagnosis of pigmented basal cell carcinoma

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Dear Sir,

Cytology is increasing being used a first line of investigation for cutaneous neoplasms. Basal cell carcinoma (BCC) is a common skin tumor generally diagnosed by clinical features. It should be confirmed by histological examination. We report a case of pigmented BCC successfully diagnosed by fine needle aspiration cytology (FNAC).

A 70 year old male presented with a pigmented ulcero-proliferative lesion on the face for the past 6 years (Figure 1). There was history of loss of weight and appetite. The lesion involved the left upper part of the face and measured 5x3.5cm. There were no palpable lymph nodes. A clinical diagnosis of malignant melanoma (MM) versus BCC was made and the patient was advised FNAC. FNA smears were cellular showing cohesive clusters of cells with sharp outlines and many having smooth borders. There was presence of numerous dispersed macrophages having granules of deep black pigment within the cytoplasm. The individual cells in clusters were monomorphic and small sized, having a narrow rim of basophilic cytoplasm, round to ovoid hyperchromatic nuclei and no nucleoli; mitotic activity = 1-2/10 hpf (Figure 2). Absence of dispersed cells, pleomorphism, prominence of nucleoli and atypical mitosis ruled out MM. A diagnosis of pigmented BCC was made. Subsequent biopsy taken from the lesion showed features consistent with pigmented BCC (Figure 3).

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The clinical differential diagnosis of MM was ruled out on cytology by absence of a dispersed cell population, pleomorphism, intranuclear inclusions and prominence of nucleoli. The differential diagnosis also includes tumors containing small basaloid cells eg basaloid squamous cell carcinoma (SCC), pilomatric carcinoma and merkel cell carcinoma. Basaloid SCC shows squamous cells with clumped chromatin, parachromatin clearing, prominent nucleoli, mitosis and necrosis which were not seen in the present case. Absence of atypical basaloid cells, ghost cells, multinucleate giant cells and calcific debris ruled out pilomatric carcinoma. Cytology of merkel cell carcinoma shows molding and rosette like grouping of small cells with stippled chromatin along with many stripped nuclei. Moreover, none of these entities show melanin containing cells.

Clinical diagnosis of BCC is usually confirmed by biopsy. Cytology can be a useful alternative to histopathology for the diagnosis of BCC. It is inexpensive, rapid, requires minimum equipments and leaves no scar. However, the disadvantage is that variants of this tumor cannot be accurately diagnosed.

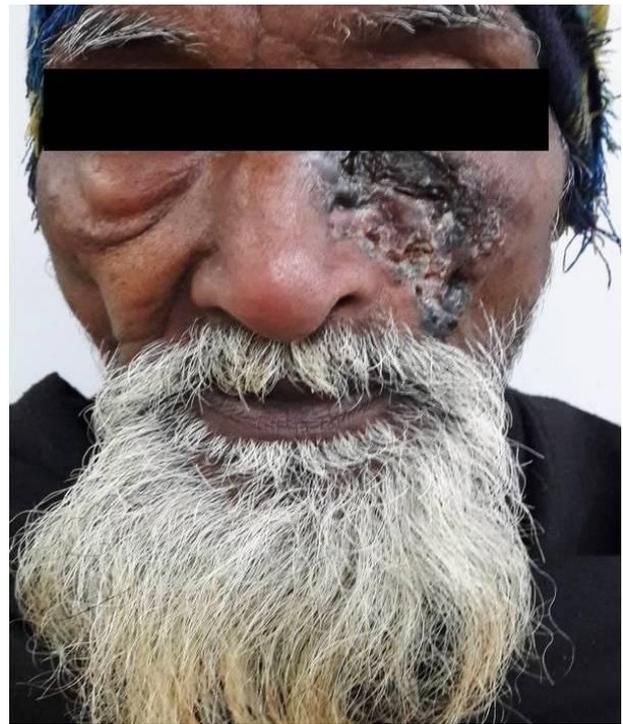


Figure 1: Clinical photograph of the patient showing an ulceroproliferative lesion on the left side of the face.

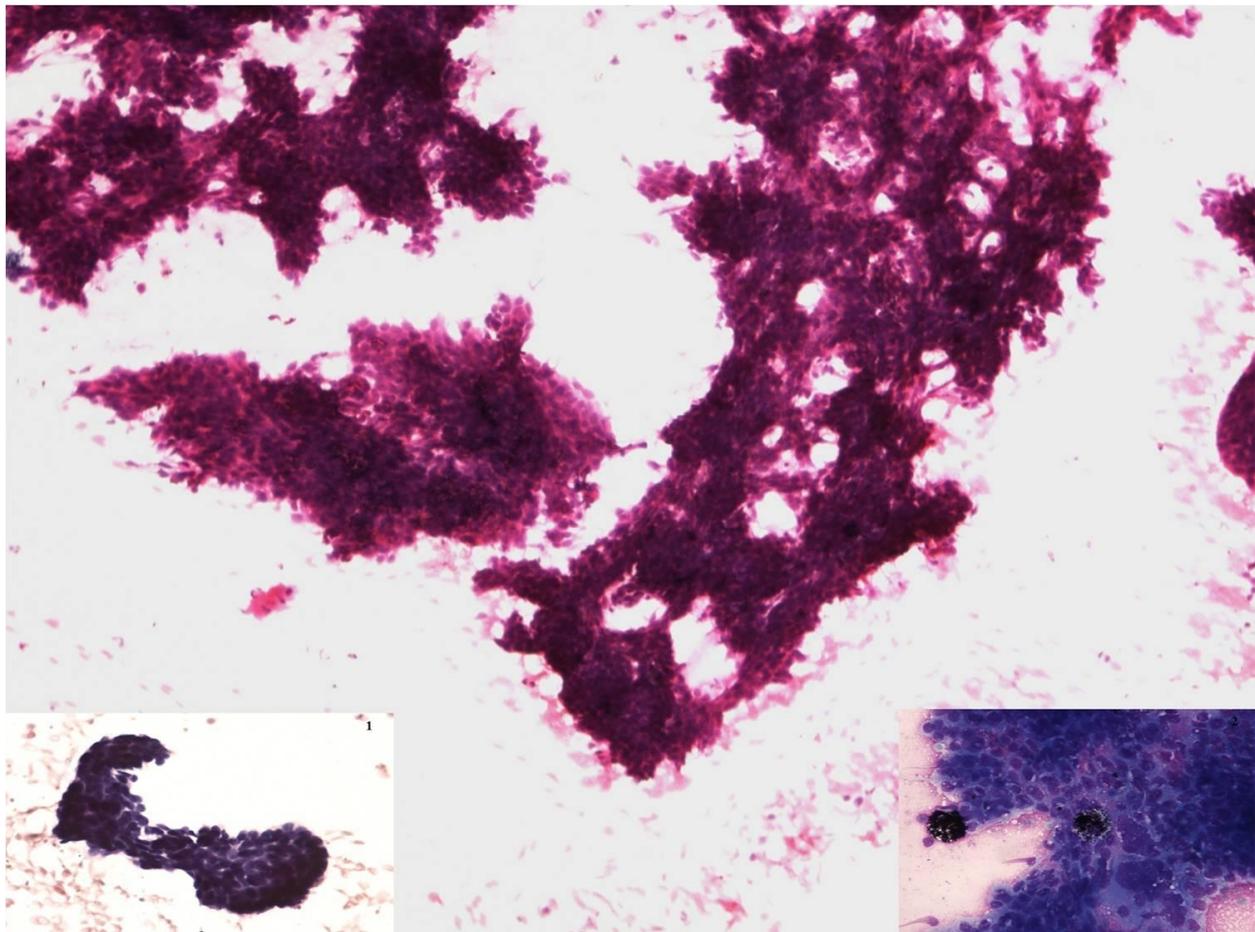


Figure 2: Cellular smear showing cohesive clusters of cells with sharp outlines (H&E, 100X) with inset 1 showing a cluster with smooth border (Pap, 400X) and inset 2 showing basaloid cells with many pigment laden macrophages (Giemsa, 400X).

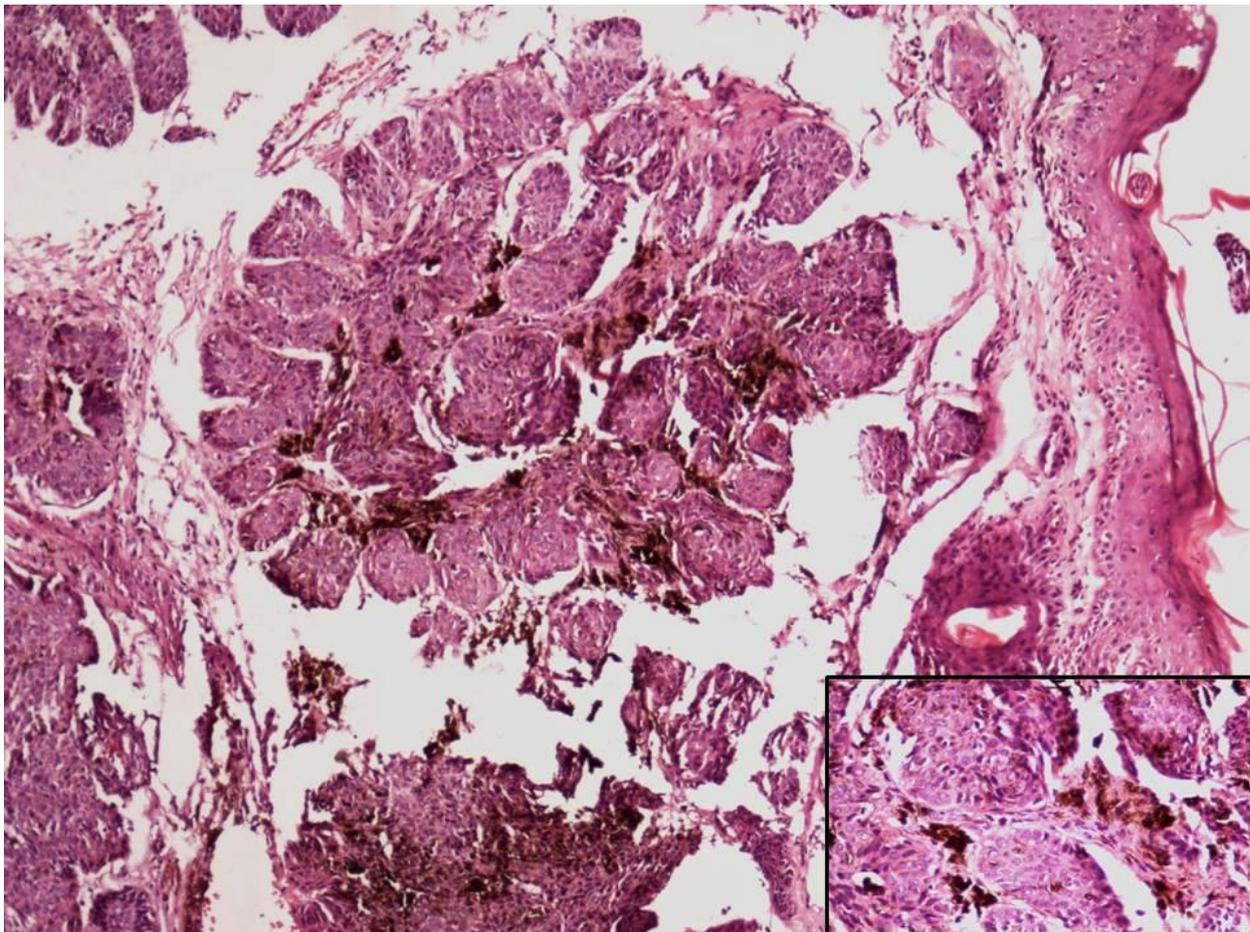


Figure 3: Section showing features consistent with pigmented basal cell carcinoma (H&E, 100X). Inset shows nests of basaloid cells along with scattered pigment laden cells (400X).

Naraghi et al studied 102 cases of histopathologically proven BCC out of which cytological diagnosis was made in 87.3% of the cases. No case of pigmented BCC was reported in their series.^[1]

Pigmented BCC is a rare variant in which melanin is produced by melanocytes which colonize the tumor and is present in melanophages located in the stroma.^[2] There are very few case reports of pigmented BCC diagnosed primarily on FNAC in past literature.^[3,4]

This case describes the importance of FNAC as an investigative tool for the diagnosis of pigmented BCC.

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Competing Interests

None declared.

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