Doi: 10.32677/IJCR.2017.v03.i02.020 Images in Pathology

Pigmented Squamous Cell Carcinoma

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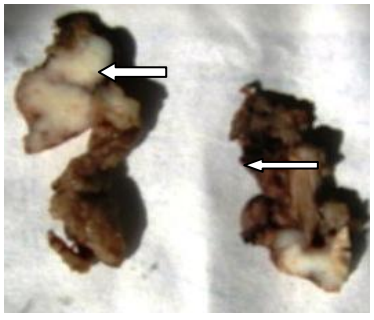
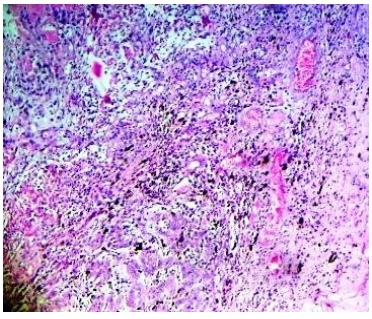
Received: 21 Feb 2017 *Initial Review: 25 Mar 2017* *Accepted: 08 Apr 2017* *Published Online: 15 Apr 2017*

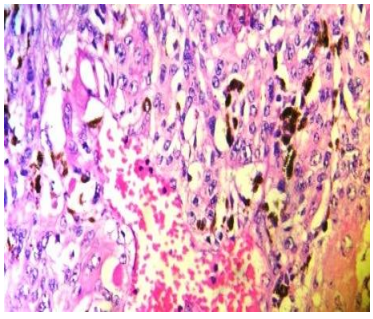
Pigmented invasive squamous cell carcinoma (SCC) is an uncommon disease and only 0.01% of all SCCs are pigmented [1, 2]. Additionally, majority of the reported cases have shown origin from the oral and ocular mucosa, with relatively few cases reported showing cutaneous origin. This uncommon lesion is a challenge on clinical examination as well as on light microscopy with a long list of differentials [3,4].

An eighty nine years old female presented in the surgical outpatient door with a nodular growth in left orbital region. The lesion was slowly increasing in size for the last two months but no medical treatment was sought for. The growth measuring 1.5x1.0x0.7 cm was excised and was sent for histopathological examination. Cut surface showed a grey white area measuring 1.0x0.7x0.5 cm. All the surgical cut margins were free of tumor. A focal light bluish discoloration at periphery was observed within the lesion (**Fig. 1**).

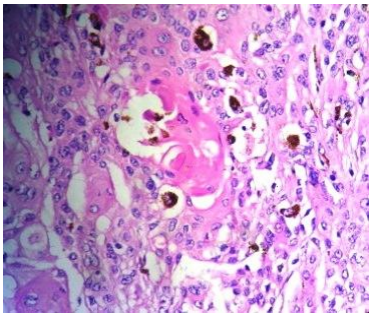
Histopathological examination revealed invasive SCC with brown pigmentation (**Fig. 2,3**). Keratin pearls were identifiable (**Fig. 4**). Immunohistochemistry for pancytokeratin was positive and for HMB45 was negative in tumor cells (**Fig. 5**). Due to natural death of the patient, follow up was not possible in this case.







Figures: Fig. 1 - Cut surface showing grey white area with bluish discoloration (White arrows), Fig 2 - H&E stained sections show invasive SCC and brown pigmentation. 10X, Fig. 3 - Invasive SCC and brown pigmentation. H&E 40X



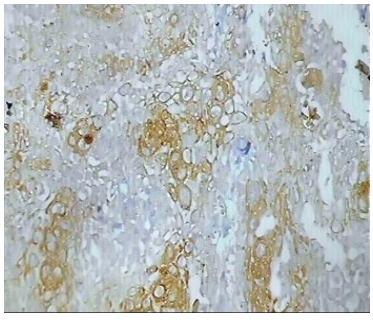


Fig. 4 - H&E stained sections show keratin pearl and brown pigmentation. 40X, Fig. 5 - Pancytokeratin stained sections showing cytoplasmic positivity 40X

Invasive SCC with pigmentation is extremely uncommon. Only a few reports of infiltrating pigmented SCC of the skin have been mentioned in the literature. In a study consisting of 46,791 cases of invasive SCC, only five cases were found to be of pigmented type [2]. In another study, only 5.5% cases of in situ SCC showed pigmentation [5]. Majority of the studies have found face as the most common site. In 2009, Yoshida et al reported a 2.2x1.5 cm pigmented SCC on the nose of a 101-year-old Japanese woman [6]. In most of the previously reported cases, common age at presentation was old age [7,8].

In the current case, patient was also old with lesion on the face so gross examination was done carefully to look for any discoloration of the growth and surprisingly on the cut surface of growth, bluish coloration was noted. On the other hand, majority of the cases reported in the past, have shown bluish coloration in invasive SCC on dermatoscopic assessment only. One recent case report has mentioned blue black colour of the lesion [7,9]. However, blue color was not found consistent with pigmented SCC as the color indicated presence of melanin in deep dermis [10].

Origin of the lesion is still not clear, and in literature, emphasis has been given on some unknown factor or cytokines and growth factors for proliferation of melanocytes [11-13]. It is to be differentiated from other pigmented types of benign epithelial neoplasms such as pilomatrixoma, actinic keratosis, seborrheic keratosis. Pilomatrixoma has characteristic ghost cells and other lesions too have benign morphology. Our case showed malignant morphology and was differentiated from pigmented basal cell carcinoma (BCC), melanoma with pseudoepitheliomatous hyperplasia, SCC in-situ depending upon the morphological findings as well as IHC. Pigmented BCC can be distinguished by the presence of peripherally palisading basaloid cells, limited keratinization. Melanoma with pseudoepitheliomatous hyperplasia has benign-appearing epithelial cells with atypical-appearing melanocytes (positive for HMB45), which contrasts to the atypical squamous cells exhibiting cytoplasmic cytokeratin positivity with benign-appearing melanocytes in IPSCC [14,15].

As invasive pigmented SCC has resemblance with many other skin lesions. This unusual histopathological variant of invasive SCC should always be kept in the list of differentials before reaching at final diagnosis.

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How to cite this article: Kaur M, Rana APS. Pigmented Squamous Cell Carcinoma. Indian J Case Reports. 2017; 3(2): 113-114.
Conflict of interest: None stated, Funding: Nil