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BASALOID CARCINOMA: A STUDY

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ABSTRACT: Basaloid carcinoma is uncommon and a highly aggressive variant of squamous cell carcinoma. This study presents the cases of basaloid squamous cell carcinoma reported in Department of Pathology, Rajah Muthiah Medical College and Hospital, Annamalai University during the period of 24 months from January 2010 to December 2012.

KEYWORDS: Basaloid, squamous cell carcinoma.

INTRODUCTION: Basaloid carcinoma is an uncommon variant of squamous cell carcinoma, first identified by Wain et al in 1986, and described as "highly malignant variant of squamous cell carcinoma with a basaloid pattern".¹ It tends to have an aggressive clinical course as compared to conventional squamous cell carcinoma with frequent local recurrence, regional and distant metastasis. The most common sites are larynx, oral cavity, hypopharynx, palate, tonsils and base of tongue.^{1,2,3} Other less frequently affected sites are nose, paranasal sinuses, external ear, submandibular region, oesophagus, lung, uterine cervix, vulva, vagina and anus.^{4,5}

OBSERVATION: A total of 79 cases of Squamous cell carcinoma were reported in the Department of Pathology, Rajah Muthiah Medical College and Hospital, during January 2010 to December 2012.

Among these, 18 (23%) cases were basaloid variant of squamous cell carcinoma involving Cervix (13), Penis (2), Tonsil (2) and Esophagus (1).

Figure 1

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ORGANS INVOLVED	SQUAMOUS CELL CARCINOMA (Age in years)	BASALOID CARCINOMA (Age in years)
CERVIX	50-70	50-70
PENIS	50-70	50-55
ESOPHAGUS	50-60	50-55
TONSIL	58	58
Table 1: AGE DISTRIBUTION IN STUDY		

DISCUSSION: Basaloid carcinoma is a high grade variant of squamous cell carcinoma(SCC) that has a predilection for occurrence in the hypopharynx (pyriform sinus), supraglottic larynx, oral cavity, tongue, tonsil and palate.^{1,2,3} Less frequently they occur in sinonasal tract, external ear, submandibular region, oesophagus, lung, penis, cervix, vulva, vagina and anus.^{4,5} Basaloid squamous cell carcinoma of upper aero digestive tract are aggressive high grade tumors with an increased tendency to be multifocal, deeply invasive and metastatic even at the initial presentation.¹

Specific etiological factors for basaloid variant of squamous cell carcinoma have not been found⁶. But factors linked to non-sinonasal tract include excessive alcohol consumption and tobacco use^{2,7}. Basaloid carcinoma is an HPV (type16 and 18) related carcinoma in genital sites, that is deeply invasive with a high frequency of recurrence, vascular invasion and lymph node metastasis. The cell of origin has not been definitely identified but in all probability is a single totipotent cell capable of divergent differentiation located in the basal layer.⁸ Patients range in age from 33 to 84 years (mean 51 years). Most of the patients presents with metastasis to lymph nodes.⁹

In the present study among the 79 SCC cases, 18 (22.8%) were basaloid variant of squamous cell carcinoma(BSCC). 17 BSCC cases were reported from cervix, penis, esophagus and 1 case reported from tonsil. All BSCC patients in the study lie between 50-70 age group, which correlates with usual occurrence. In this study basaloid cell carcinoma of penis, esophagus and tonsil were found to be associated with alcohol and tobacco use. HPV association was not identified in our cases of cervical lesions. Associated lymph node enlargement was noticed in basaloid cell carcinoma of penis.

Macroscopically the lesions are firm to hard, tan-white masses with central necrosis and measure up to 6cm in greatest dimension. Infrequently they may be exophytic in appearance. Microscopic picture of basaloid carcinoma is characteristic. The small basaloid cells arranged in nests, lobules and trabeculae are the hallmark of the tumor. Peripheral palisading around individual lobules also can be prominent in most areas.^{4,6,10} The pattern of comedo type of necrosis is a more frequent companion of the lesion, to the extent that some authors consider it to be "one of the main characteristics of the lesion".^{6,10}

The abrupt keratinization seen within islands of basaloid cells has also been noted.^{6,11} Most authorities believe that the tumors with histological architecture that also contain foci of more typical SCC are associated with overlying squamous dysplasia and those lesions with pleomorphic nuclei, abundant mitoses and evidence of lymph node metastases should be considered as basaloid variant of SCC.^{13,14,15} Metastases include both basaloid and squamous cell components. Electron microscopy shows the basaloid component to have desmosomes, rare tonofilaments and loose stellate granules or replicated basal lamina within the cystic spaces.¹

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The differential diagnosis of BSCC include adenoid cystic carcinoma, adenosquamous carcinoma, spindle cell squamous carcinoma, mucoepidermoid carcinoma, adenoid squamous carcinoma, small cell neuroendocrine carcinoma, and basosquamous cell carcinoma.^{5,6,12} Basaloid squamous cell carcinoma is a rapidly fatal neoplasm associated with high mortality rate within the first year after diagnosis. The treatment of choice for basaloid carcinoma is complete surgical resection of the tumor. Lymph node dissection with supplemental radiotherapy and chemotherapy may be included in the initial management protocol.

CONCLUSION: Basaloid carcinoma is an uncommon aggressive variant of squamous cell carcinoma believed to carry dismal prognosis. The increasing incidence of basaloid carcinoma in rare sites is being observed as noted in the present study. Hence utmost care should be taken for early detection and thus improve the prognosis.

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MICROSCOPIC PICTURES:

Fig. 1: (4x)

Fig. 2: (2x)

Nests of basaloid tumour cell with peripheral palisading. Central area shows pallor.

Fig. 3: (4x)

Tumor cells show cellular and nuclear pleomorphism with hyperchromatism.

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