Acantholytic Squamous Cell Carcinoma of Skin - A Case Report

Pages with reference to book, From 283 To 285

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Acantholytic squamous cell carcinoma (SCC) is a rare vanant of squamous cell carcinoma and few cases have been reported in literature. Initially this tumour was considered to have a sweat gland origin by Lever in 1947 and was called Adenoid acanthoma of sweat gland[1]. However, later it was accepted as an uncommon variant of squamous cell carcinoma synonyms acantholytic squamous cell carcinoma, adenoid squamous cell carcinoma, pseudoglandnlar squamous cell carcinoma, epithelioma spinocellular segregans[2,3]. The tumour is seen classically on sun exposed areas of elderly, however, other sites have been reported. The tumour has distinct histology as well as an aggressive nature. A classical case of acantholytic SCC is described here, because the presence of such cases in our literature is remote.

Case Report

An 80 years old man reported in a surgical out-patients department with the history of a non healing ulcer on the fore head for the past seven months. The lesion bled frequently and did not respond to various topical applications. Patient had no other complaints. On examination an ulcer was seen on the right side of the forehead, measuring about 3 cm in diameter and was covered with a haemorrhagic crust. Draining lymph nodes were not enlarged. A thorough systemic examination was done which did not reveal any abnommlity. A provisional clincial diagnosis of basal cell carcinoma was made (consent for clinical photograph was not givenby the patient). Complete excision was done and the specimen was sent for histopathology. Since no enlarged nodes were seen, lymph node bipsy was not done.
The biopsied specimen comprised skin measuring 2.3x1.1cm in diameter and 0.5 cm in thickness. An ulcer was seen in the centre which measured 0.4cm in diameter.
Four micron thick sections were prepared from the formalin fixed paraffin embedded tissue and were stained with haematoxylin and eosin. The microscopic examination showed focal parakeratosis, a supra basilar split with a few acantholytic cells. Cells of the basal layer showed dysplasia in the fonn of nuclear atypia. This was consistent with actinic keratosis. Adjacent to this lesion a tumour mass was seen extending from the epidermis into the dermis, fonning alveolar/glandular spaces lined by multiple layers of cells showing squamous differentiation (Figure 1).

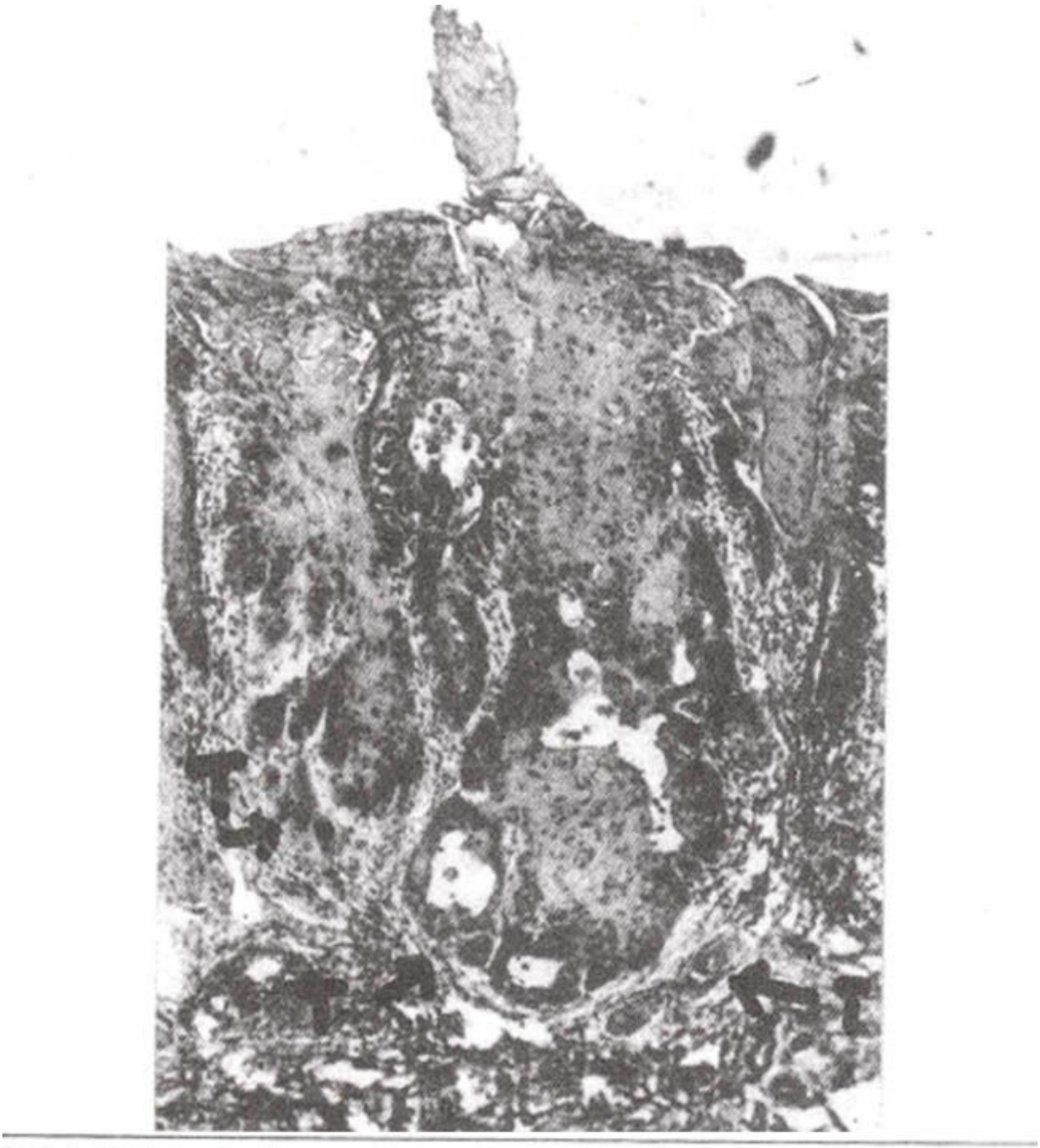

Figure 1. Showing nests of tumour cells extending from the epidermis into the dermis. T: Tumour nests (X100).

The lumen of alveolar spaces contained large nuniber of dyskeratotic acantholytic cells showing squamous differentiation (Figure 2).

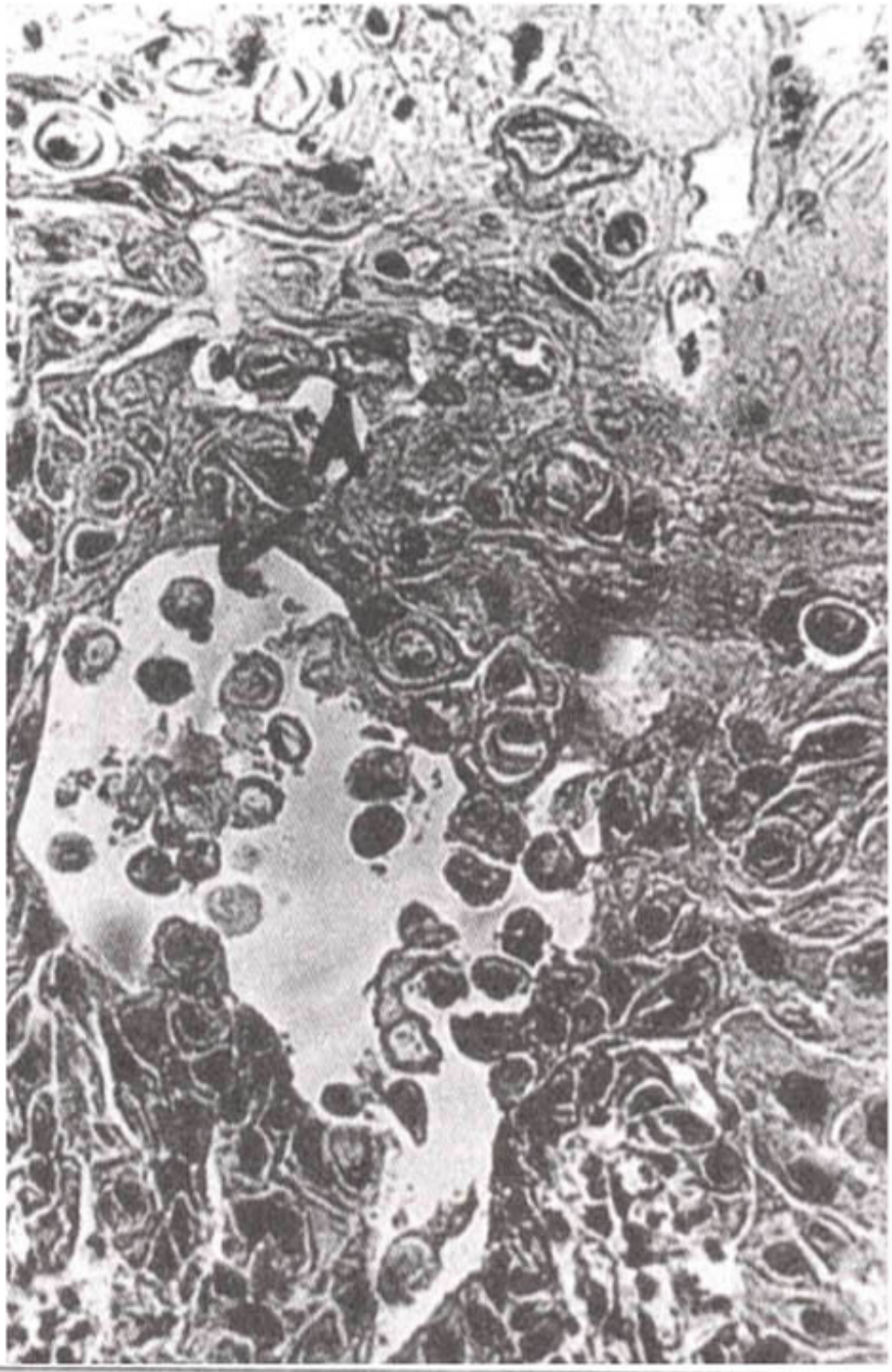

Figure 2. An alveolar space containing acantholytic and dyskeratotic cells. A: acantholytic cell (X200).

Immunohistochemistry was done using the marker for cytokeratin and the tumour mass was found to be positive. A histologic diagnosis of acantholytic squamous cell carcinoma was made and wide excision of the lesion as well as those of the draining lymphnodes was advised. Screening for metastasis and a regular follow-up was also suggested.

Discussion

Cutaneous acantholytic squamous cell carcinoma is a distinct neoplasm featuring tumour cell acantholysis. The diagnosis of acantholytic squamous cell carcinoma is based on the following cirteria: (i) The tumour cells consist of keratinizing squamous cells; (ii) There are adenoid structures showing rounded spaces lined by a single cell layer lining. Where the lining of the space is multilayered the cells show a squamoid pattern with areas of keratinization and (iii) The lumina of these structures contain single or groups of dyskeratotic acantholytic cells[2,3]. The tumour comprises both solid and gland like epithelial proliferationhence was thought to be of sweat gland origin[4]. Later it was postulated that the tumour originated from the mucin producing cell of the upper hair sheath[5]. However, subsequently with the help of specific markers, the tumour was found to be staining for cytokeratin and lacked the markers for glandular cells which is against the concept of adenexal differentiation, hence it was regarded as a & finite variant of SCC[6,7].

The classical site of the tumour is the head and neck area of the elderly[4,6]. Our case is an example of a classical lesion. Other sites, however have been described which are, feet of the elderly Japanese[2] , breast[7], oral cavity including mucosa gingiva and tongue[1]. Acantholytic (adenoid) SCC also has been reported on the vulva[3] and uterine cervix[8]. Pathogenesis of the tumour has been debatable. In cases where the tumour has occurred on the sun exposed areas it has been suggested that tumour arises from acantholytic solar keratosis[9]. Similar reason was suggested in the lesion on the feet of the Japanese patients and here the particular design of the foot wear was thought to be the possible cause[2]. In our case also, there was a lesion of actimc keratosis overlying the tumour mass which is consistent with this pathogenesis. Sunexposure being the only cause is not accepted where the tumour arises on other sites which are not sun exposed such as oral mucosa[1]. Other predisposing and causative factors include, radiation therapy[1,10] and bum scars[11]. Experimental application of snuff on oral mucosa in rats was followed by acantholysis, dyskeratosis and cellular atypia[12]. Similar changes were also noted on hamster's palate, gingiva and oral mucosa when N-Methyl N-Nitmsurea was given intraperitoneally[13] and also when 4 Nitroquioline N-oxide was painted on the oral mucosa in rats[14]. The cutaneous acantholytic tumour was thought to behave man indolent manner although a large numberof cases show wide spread metastasis. The lesions on the breast proved aggressive and fatal in a short period of time[7]. The tumour on the feet of the Japanese showed metastasis to the inguinal lymph nodes[2], the tumour following bums which was for vimentin and cytokeratin was rapidly fatal11. The prognosis of acantholytic SCC is therefore not reganled favourable.

The tumour has to be differentiated histologically from angiosarcoma where adenoid pattern may give a pseudo-vascular appearance[4] and primary or metastatic adenocarcinoma, where cellular markers are used to identify[4,6]. Some rare benign disorders have to be differentiated also, like acantholytic seborrhoeic keratosis[15] and isolated dyskeratotic acanthoma[16] which may be histologically similar but the clinical features help in differentiating.

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