Dermoscopic pitfall: Microcystic adnexal carcinoma mimicking basal cell carcinoma

Sir,

Microcystic adnexal carcinoma is often mistaken for benign adnexal tumors or basal cell carcinoma clinically and histologically. Though dermoscopy is helpful in the differential diagnosis of cutaneous tumors, information on the dermoscopic features of microcystic adnexal carcinoma is limited.

A 53-year-old Indian male, with Fitzpatrick skin phototype V, presented with a slowly enlarging asymptomatic plaque on the right side of his upper lip of 12 years duration. A rapid increase in size in the past 6 months prompted the consultation. At presentation, there was a single indurated plaque of about 3 × 2 cm in size on the right side of upper lip encroaching the vermilion border. There was a central crateriform depression with focal scale-crusts and hemorrhage. The margins were elevated and had a pearly rolled appearance with telangiectasias [Figure 1]. Oral cavity examination was unremarkable. There was no regional lymphadenopathy. Dermoscopic examination showed a central pinkish-white structureless area with overlying scale-crusts and hemorrhage. There were sharply in-focus arborizing vessels in the periphery and a few yellow-white clods on the inferior margin. Gray-brown dots were also present focally [Figure 2]. Based on these features, a provisional diagnosis of basal cell carcinoma was considered. Histological examination revealed multiple horn cysts and cystic structures containing eosinophilic secretions lined by basaloid and squamoid cells in the dermis extending down to the subcutis. Cysts were larger and more numerous in the upper dermis and became progressively smaller in the mid and deep dermis. There were solid islands and strands of basaloial cells interspersed with cysts in the mid and deep dermis, embedded in a fibrosclerotic stroma. Immunohistochemical staining with cytokeratin 19 was positive in a majority of tumor cells, cytokeratin 7 showed focal positivity at the luminal aspect of some of the ductal structures, while CD23 was negative. Some of the cystic spaces lined by glandular cells were immunopositive for carcinoembryonic antigen [Figure 3]. These features were diagnostic of microcystic adnexal carcinoma.

Microcystic adnexal carcinoma is a rare, locally aggressive, deeply infiltrative malignant adnexal carcinoma with follicular and eccrine differentiation, which typically affects Caucasians. It presents as a slow-growing asymptomatic firm plaque or nodule on the head and neck region, masquerading as benign adnexal tumors or basal cell carcinoma. On histology, it has a superficial component of keratinous cysts and a deeper component of nests and cords of cells embedded in a sclerotic stroma. It is often mistaken for morpheaform basal cell carcinoma, desmoplastic trichoepithelioma or trichoadenoma, especially if the biopsy specimen is superficial. Our case showed features of both follicular (keratocysts) and eccrine differentiation (as detected by carcinoembryonic antigen), excluding these histological differential diagnoses. Such a dual differentiation and an infiltrative pattern can also be seen in squamous cell carcinoma (with microcystic adnexal-carcinoma-like differentiation) and squamoid eccrine ductal carcinoma. However, the tumor cells in these neoplasms have an epidermal attachment with a background of in situ squamous cell carcinoma, show prominent cellular atypia, nuclear pleomorphism and mitotic activity. These features were lacking in our case.

Not much literature is available on the dermoscopic findings of microcystic adnexal carcinoma and we could find only four reports...
Figure 1: Indurated plaque with a central crateriform depression and elevated pearly rolled out margins on the right side of upper lip.

Figure 2: Dermoscopic examination (polarized, 16×; Heine Delta 20T, Heine Optotechnik, Herrsching, Germany) showing pinkish-white background (yellow star) with focal scale-crust (green arrows), hemorrhage (red arrow), gray-brown dots (red star) and in-focus arborizing vessels (yellow arrow). Yellowish-white clods (black arrows) present at the inferior margin.

Figure 3a: Multiple horn cysts and cystic structures containing eosinophilic secretions, interspersed with solid islands and strands of basaloid cells extending to the deep dermis embedded in a fibrosclerotic stroma (H and E, ×20).

Figure 3b: Keratocyst and cystic structures containing eosinophilic secretions (H and E, ×200).
The most characteristic finding appears to be the presence of whitish clods of variable size, probably representing keratinous cysts, reported in three out of four cases. The background color varied from white, yellow-orange or brown along with fine linear branched vessels. Interestingly, the whitish clods were not very conspicuous in our case and were appreciated only on a retrospective review of the dermoscopic images. The scale-crusts, hemorrhage and gray-brown dots as seen in our case have not been previously documented in microcystic adnexal carcinoma.

In addition, in-focus arborizing vessels were prominently seen in our case, which are considered to be a hallmark of basal cell carcinoma, although its diagnostic significance is now being reconsidered. Recently, focussed arborizing vessels have been reported in dermoscopy of a few skin disorders other than basal cell carcinoma such as epidermoid cysts, scars, intradermal nevi and actinic keratosis. The authors found the ratio of widest diameter of stem vessel to widest diameter of first branch to be statistically significantly more in the non-basal cell carcinoma group when compared with basal cell carcinomas.

The overall dermoscopic features in our case resembled those of basal cell carcinoma. This is not surprising because microcystic adnexal carcinoma and basal cell carcinoma share several histological features [Table 1]. Furthermore, benign adnexal tumors, especially the follicular tumors,
Letters to the Editor

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