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The Importance of Preoperative Dermoscopy in Basal Cell Carcinoma Due to a Case of Nodular Cystic BCC

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ABSTRACT

Basal cell carcinoma (BCC) is the most widespread malignancy among all malignancies. It constitutes 65%–80% of non-melanoma skin malignancies. Although there is no universally accepted classification for BCC, there are at least 26 different defined subtypes, which can all be very difficult to recognize. The best-known variants of BCC are nodular, superficial, morpheaform, and infiltrative types. In this report, we describe a patient who was referred for surgery with the diagnosis of cystic BCC by preoperative dermoscopy. Herein, we present a rare form of nodular cystic BCC due to its importance in improving the knowledge of dermoscopy and surgery.

Keywords: Skin cancer, basal cell carcinoma, dermoscopy, non-melanoma skin cancer

INTRODUCTION

Basal cell carcinoma (BCC) is the most widespread malignancy among all malignant tumors. It constitutes 65%–80% of non-melanoma skin malignancies (1). It is known that tumor cells that cause BCC originate from pluripotent epithelial cells from the basal layer of the epidermis (2). Approximately 80% of BCCs are located in the head and neck region, because of the density of pilosebaceous glands and the frequency of sun exposure in this region (2).

Although there is no universally accepted classification for BCC, there are at least 26 different defined subtypes. Some of these are nodular, infiltrative, superficial, fibroepithelial, keratotic, metatypical, adenoid, pigmented, sclerosing (morpheaform), basosquamous, and types that show sebaceous differentiation; of all of these, the nodular type BCC is most known at 60% (3). Nodulocystic BCC is a rare variant of nodular BCC with an estimated incidence of less than 3%. This low-grade tumor has been declared very few times in the literature due to its low incidence (3).

Herein, we present a patient with nodulocystic BCC to improve the knowledge of its findings via dermoscopy and its methods of treatment.

CASE REPORT

A 69-year-old man was admitted to our outpatient dermatology clinic with the complaint of a cystic lesion at the tip of his nose. The dermatological examination revealed a cystic lesion at the tip of the nose (Fig. 1). In addition, there was extensive sun damage to the whole skin of the face.

There was no history of additional disease in his medical history and no history of skin cancer in the family history. It was learned that our patient was a farmer by occupation, and that there were no predisposing factors (chronic trauma, chemical carcinogen, arsenic, radiation, chemical or thermal burn) other than sun exposure in his case.

During his dermoscopic examination, ulceration (black arrow), short fine telangiectasia (red arrow), white structures (white arrow), blue gray globules, and blue gray ovoid nests (yellow arrows) were found on the cystic lesion (Fig. 2). Nodulocystic BCC was tentatively diagnosed, based on the clinical and dermoscopic findings. The lesion of the patient was completely excised, keeping a margin of at least 3 mm of healthy skin.

The histopathological findings indicated tumor masses mostly in the dermis. There were common cystic areas within the tumor and clefts between the stroma and the tumor. Basaloid cells were found to be intensely palisading at peripheral locations of tumor masses (Fig. 3). Palisading was also seen in the tumor cells at 40 magnification under hematoxylin and eosin staining (Fig. 4).

The final histopathological diagnosis was compatible with nodulocystic BCC. The tumor was 1.8×1.3×0.8 cm in size. The tumor was located at 3 mm, 4 mm, 4 mm, and 3 mm, respectively, to the lateral surgical margins (9, 12, 15, and 18 o'clock position). The base surgical margin was 2 mm away. Since the histological type of the

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Figure 1. At the dermatological examination, telangiectatic structures were found on the cystic lesion at the tip of the nose

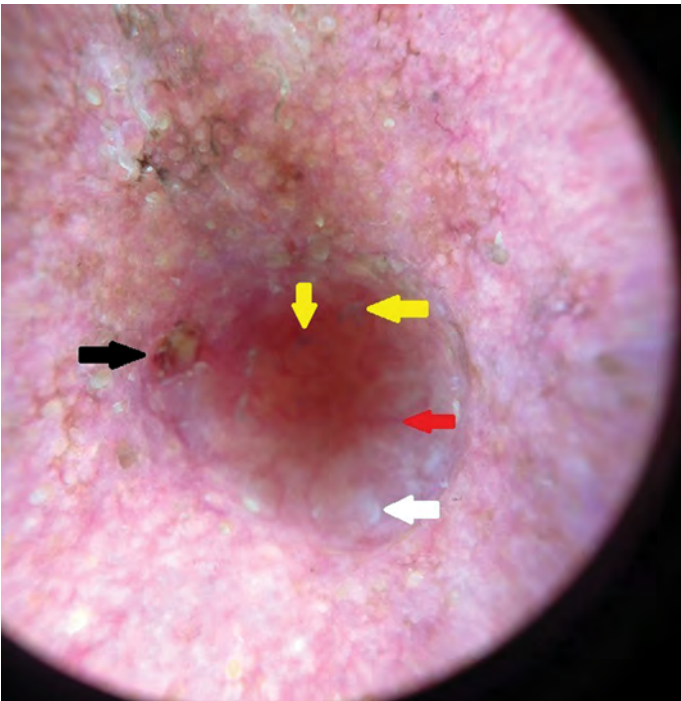


Figure 2. At the dermoscopic examination, ulceration (black arrow), short fine telangiectasia (red arrow), white structures (white arrow), blue gray globules, and blue gray ovoid nests (yellow arrows) were observed on the cystic lesion

tumor was nodular cystic BCC, the surgical margin was considered to be sufficient and additional excision was not considered. There was no recurrence of BCC during the 30-month follow-up period.

DISCUSSION

BCC is commonly detected in dermatology practice. Epidemiological data indicate that the incidence of BCC is increasing worldwide.

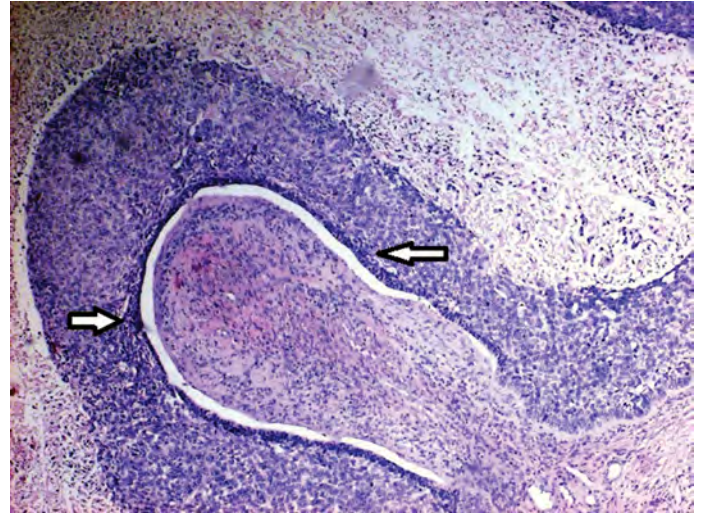


Figure 3. The tumor contained cystic spaces. Clefts between the stroma and tumor edge were seen. Palisading of the basaloid cells at the peripheral sites of the tumor masses was noticed

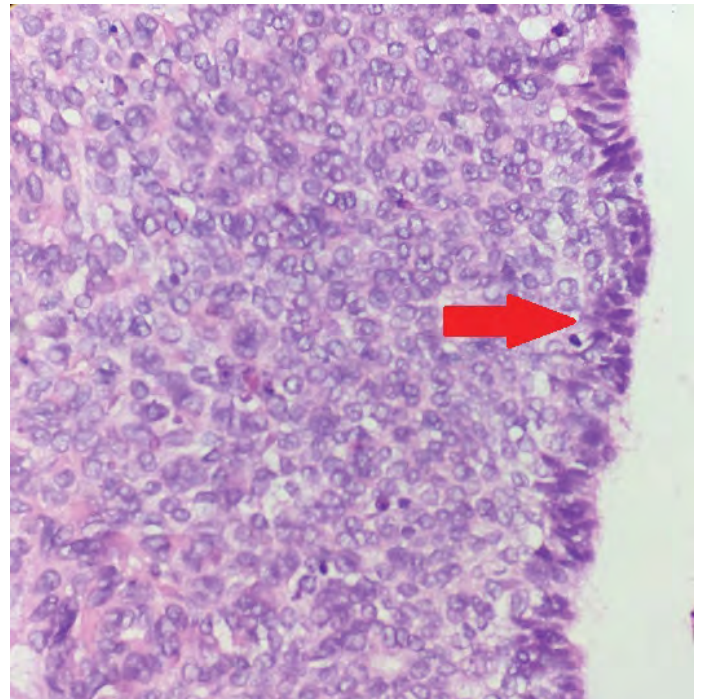


Figure 4. Palisading in tumor cells at 40 magnification under hematoxylin and eosin staining

The lifetime risk of developing BCC is approximately 30% (4).

Although there is no universally accepted classification for BCC, there are at least 26 different defined subtypes. The best-known variants of BCC are nodular, superficial, morpheiform, and infiltrative types. The nodular BCC is the most common BCC type (60%); its subtypes are solid, adenoid, keratotic, and cystic (3). In our case, the type of BCC diagnosed was cystic nodular BCC, a very rare variant. Nodulocystic BCC is itself a rare variant of BCC, which manifests with characteristic spaces that may result from tumoral necrosis, as seen histopathologically.

Dermoscopy is still a developing field of research in dermatology. Dermoscopic criteria for skin lesions are constantly revised, added to, and reinterpreted. Although the diagnosis of BCC is based on clinical examination, dermoscopy with 95–97% sensitivity and 87–96% specificity is useful for differentiating BCC from melanocytic/non-melanocytic and pigmented/non-pigmented skin tumors. Dermoscopy provides a fast and safe approach to the diagnosis and classification of the tumor type without the cost and morbidity caused by biopsy (5). Globules and ulceration, large blue gray ovoid nests, classic arborizing vessels, and multiple blue gray dots are classified for the nodulocystic BCC (6). In our patient, at his dermoscopic examination, ulceration, short fine telangiectasia, white structures, blue gray globules, and blue gray ovoid nests were observed on the cystic lesion. Our preliminary diagnosis was nodular cystic BCC after clinical and dermoscopic examination.

Although methods such as electrocautery, cryotherapy, curettage, laser treatment, and radiotherapy have been described for the treatment of BCC, surgical excision is still the gold standard for treatment (7). BCC can be efficiently cured through surgical excision, however, the suitable surgical margins have not still been fully describes. Moreover, micrographic surgery is not easily available around the world (7).

The competent lateral excision margins according to the international guidelines should be traced out between 3–10 mm, based on the old treatments, histology, size, site, and borders (7). In more than 95% of BCC cases with well-defined peripheral margins in the head and neck region, 2 mm excision margins are sufficient for tumor excision (8). The dermoscopy defines lateral margins in BCC more accurately as compared to clinical examination alone. Thus, preoperative dermoscopy allows more than 95% of cases with a margin of 2 mm only (8). The histopathological subtype is one of the most critical factors in the determining of BCC treatment (9). It has been proven that dermatoscopic examination provides information before the histopathological examination that helps to predict the BCC subtype (9). In our case, preoperative dermoscopy showed that the lesion was nodulocystic BCC and thus, prevented us from performing surgery with larger margins. The surgery was performed with better cosmetic results and without the use of flaps.

We present a case of nodulocystic BCC which is a rare form of nodular BCC in terms of the importance of dermoscopy and the effect of preoperative dermoscopy on the operation.

CONCLUSION

Identifying the suitable excisional borders is essential for the success of surgical treatment of basal cell carcinoma. The histopatho-

logical type influences the surgical treatment options and width of the surgical margin. It has been proven that dermoscopic examination provides information before the histopathological examination that helps in predicting the BCC subtype.

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