Nonmelanoma Skin Cancer of the Head and Neck
Clinical Evaluation and Histopathology

Gulsum Gencoglan, MD[a,*], Fezal Ozdemir, MD[b]

KEYWORDS

• Skin cancer • Actinic keratosis • Bowen's disease • Basal cell carcinoma
• Squamous cell carcinoma • Pathology • Dermoscopy • Reflectance confocal microscopy

KEY POINTS

- In most nonmelanoma skin cancer (NMSC) tumors, diagnosis is easy for their typical morphologic appearance; however, it is sometimes difficult to differentiate the pigmented or nonpigmented skin lesions clinically.
- With the naked eye, only half of pigmented lesions are correctly diagnosed; dermoscopy increases the diagnostic sensitivity to 95%.
- Besides diagnosis, dermoscopy and confocal microscopy have the advantage of selection of location for biopsy, determination of appropriate therapeutic modalities, verification of treatment efficacy, and decision of surgical margins.
- The central zone of the face, temples, lips, ears, and the scalp have significant risk for local recurrence and metastases of squamous cell carcinoma (SCC). Similar to basal cell carcinoma, the growth of SCC tends to follow the regions of the least resistant, spreading along the perichondrium, periosteum, fascia, and embryonic fusion planes.

INTRODUCTION

Nonmelanoma skin cancer (NMSC) is the most common skin cancer affecting both sexes. In most of these tumors, diagnosis is easy for their typical morphologic appearance[1]; however, it may sometimes be difficult to differentiate the pigmented or nonpigmented skin lesions clinically.

Dermoscopy is a practical technique for the evaluation of pigmented and nonpigmented skin lesions, including melanoma and NMSC. It is a noninvasive and inexpensive in vivo tool that permits the visualization of morphologic features that are not visible to the naked eye.[2] With the naked eye, only half of the pigmented lesions are correctly diagnosed.[3] Dermoscopy, which is useful in the differential diagnosis of melanocytic and nonmelanocytic lesions, increases the diagnostic sensitivity to 95%.[4,5] A 10-fold magnification is generally sufficient for the assessment of the suspicious skin lesions, but magnifications up to ×100 are possible.[6]

Reflectance confocal microscopy (RCM) is a new optical method that is useful for obtaining the detailed images of tissue architecture and cellular morphology of living tissues. It does not need fixation, sectioning, and staining, but provides in near real-time imaging with a high resolution and contrast.[7] In contrast to vertical sections in histologic evaluation, RCM obtains horizontal (en face) optical sections in gray scale.[8] These horizontal images of the skin at the cellular

[a] Department of Dermatology, Celal Bayar University, 45050, Manisa, Turkey; [b] Department of Dermatology, Ege University, 35100, Izmir, Turkey
* Corresponding author.
E-mail address: gencoglan75@hotmail.com

Facial Plast Surg Clin N Am 20 (2012) 423–435
http://dx.doi.org/10.1016/j.fsc.2012.07.005
1064-7406/12/$ – see front matter

resolution can be viewed from the surface down to 150 μm, which is the depth of the papillary dermis.[9] A digital camera connected to the RCM computer obtains dermoscopic images directly correlated with RCM evaluation and guides the identification of suspicious areas within the lesion.[8] RCM has been used for the evaluation of a variety of inflammatory and neoplastic skin disorders.[9,10]

Although these 2 easy methods are useful for clinicians in the diagnosis and follow-up, histopathological evaluation is still the gold standard; however, the 2 methods decrease unnecessary excision rates and are useful in the monitoring of the new lesions and recurrences. Here, clinical, histopathologic, dermoscopic, and RCM features of NMSC are reviewed.

BASAL CELL CARCINOMA

Clinical Findings in Basal Cell Carcinoma

Basal cell carcinoma (BCC) has clinical variants that are nodulo-ulcerative, morpheaform, infiltrative, superficial, basosquamous, cystic, and fibroepitheliomatous. The most common type, nodular BCC, occurs mainly on the face as a firm, "pearly" papule or nodule with a telengiectasic surface. In time, the dome-shaped lesions tend to be eroded and ulcerated.[1] Nodular BCC accounts for 75% to 80% of all cases (**Fig. 1**).[11] Approximately 90% of nodular BCCs are found on the head and neck. These may be heavily pigmented because of the presence of melanin, so that it is sometimes impossible to exclude melanoma by only visual inspection (**Fig. 2**). The superficial type of BCC is the second common subtype of BCC (15%), which mainly affects the trunk and the extremities; however, it can be localized on the head and neck area also (**Fig. 3**).[12]

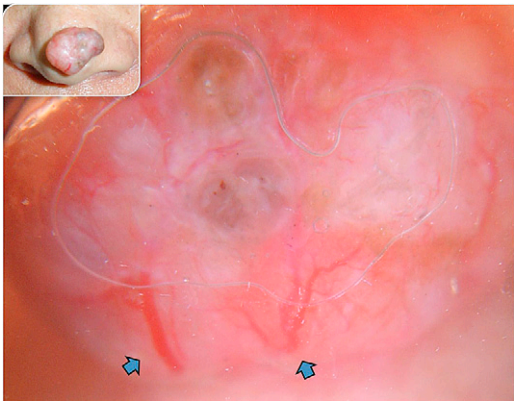

Fig. 1. Nodular BCC; arborizing vessels (*arrows*).

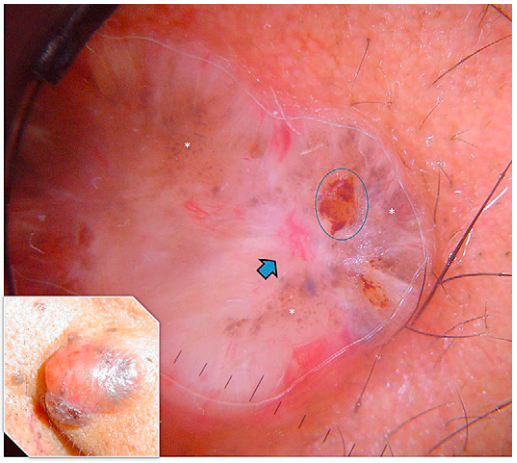

Fig. 2. Pigmented nodular BCC; ulceration (*circle*), arborizing vessels (*arrow*), irregular scattered gray dots and globules (*asterisk*).

The less common infiltrative (**Fig. 4**) and morpheaform (**Fig. 5**) types can be seen as poorly defined, lightly pigmented, indurated, flat skin lesions, occasionally with overlying telangiectasia.[13] The lesion may also appear scarlike without a history of skin injury. The head and neck are involved in 95% of these cases. The overlying skin surface may be atrophic, ulcerated, or relatively normal in appearance.

Basosquamous BCC, described as metatypical BCC, is a rare subtype, and is intermediate to nodulocystic BCC and squamous cell carcinoma (SCC) (**Fig. 6**).[12]

Fig. 3. Superficial BCC; brown/gray leaf-like areas (*blue arrows*) and globules (*white arrows*).