ABSTRACT

BACKGROUND: Basal cell carcinoma (BCC) is the most common skin cancer in fair-skinned individuals. Although lymph node or visceral metastases are observed in less than 0.5% of all cases, BCC can have a fatal course due to its highly invasive growth pattern. OBJECTIVES: To provide a comprehensive update on diagnosis, treatment, and prevention of BCC. MATERIALS AND METHODS: We review the current literature and recommendations of the German guidelines on treatment and prevention of skin cancer. The most pertinent developments are summarized in this review article. RESULTS: The use of optical coherence tomography and reflectance confocal microscopy can significantly improve the diagnosis of BCC compared with clinical assessment and dermoscopy alone. Mohs micrographic surgery remains the therapeutic gold standard for tumors in the head and facial area and tumors with high-risk features. The application of imiquimod, 5-fluorouracil, or photodynamic therapy should be restricted to low-risk superficial tumors. Topical inhibitors of the sonic hedgehog (SHH) pathway are currently being evaluated in early clinical trials. In contrast, vismodegib and sonidegib have been approved for the systemic treatment of locally advanced and metastatic BCC with good response rates. The most common adverse events of both agents are muscle cramps, dysgeusia, diffuse alopecia, weight loss, and fatigue. In an Australian phase III trial, oral nicotinamide (vitamin B3) reduced the occurrence of new BCC by 20% in skin cancer patients. CONCLUSIONS: Targeted therapy with SHH inhibitors has improved the prognosis of locally advanced and metastatic BCC, albeit at the cost of a significant number of adverse events. KEYWORDS: Nicotinamide; Sonic hedgehog pathway; Sonidegib; Targeted therapy; Vismodegib