Case 1

History: A 60-year-old man presented with scarring, draining sinuses and several large eroded nodules in his buttocks. The patient has a known history of hidradenitis suppurativa.

Diagnosis: Squamous cell carcinoma arising in the setting of hidradenitis suppurativa

Discussion

A variety of inflammatory conditions can predispose to the development of malignancy. In the skin hidradenitis suppurativa, hypertrophic lichen planus, lichen sclerosus, and chronic infection often predispose the patient to cutaneous squamous cell carcinoma. Human papillomavirus infection has been implicated as the cause in the setting of chronic hidradenitis suppurativa. In a recent meta-analysis of 16 publications comprising of 7806 patients with oral lichen planus, 85 patients developed squamous cell carcinoma. The overall rate of malignant transformation was 1.09 percent.

References


Cases 2 and 3

History: Case 2: a 67-year-old woman with recurrent melanoma of left frontal scalp and metastatic melanoma to her lungs and brain, was on carbo/paclitaxel, then kinase inhibitor. She then developed multiple 3mm hyperkeratotic papules with central core scattered throughout her body.
Case 3: A 49-year-old woman with metastatic BRAFV600E mutant rectal carcinoma on BRAF inhibitor presented with new moles on her back and changing mole on her left leg

Diagnosis: Eruptive keratoacanthoma and atypical nevus associated with BRAF inhibitor

Discussion

The vast majority of BRAF mutations in melanoma result in a glutamic acid to valine substitution at codon 600 (BRAF V600E). This particular epitope serves as the primary target of therapies, including vemurafenib and dabrafenib, which are both currently approved for the treatment of metastatic melanoma. Cutaneous adverse effects are common and often dose-limiting in these patients. The most commonly biopsied BRAF-inhibitor related cutaneous adverse events include epidermal neoplasms and melanocytic lesions.

Neoplastic keratinocyte proliferations are among the most common and the most frequently biopsied cutaneous adverse event with BRAF inhibitor therapy and range from actinic keratosis,
verrucoid keratosis, to well-differentiated or invasive squamous cell carcinomas (SCC) with or without keratoacanthomatous features. A study of 134 patients by Anforth et al. with BRAF-mutant metastatic melanoma treated with a BRAF inhibitor found that about a quarter (32 of 134, 24%) developed cutaneous SCC after starting treatment. These squamous proliferations can arise anywhere from days to months after initiating BRAF inhibitor therapy but over half of patients in one series were diagnosed with a cutaneous SCC within three months of starting treatment.

During BRAF inhibitor therapy, existing melanocytic lesions can undergo involution or exhibit change in size and color. Eruptive nevi, new nevi, as well as new primary melanomas can develop. In one series by Zimmer et al, roughly half of patients on BRAF inhibitor therapy for metastatic melanoma and had experienced a significant change in an existing melanocytic lesion or developed a new such lesion were ultimately diagnosed with a new primary melanoma. Rates of new primary melanoma in trials of dabrafenib and vemurafenib for metastatic melanoma were 3 of 187 (1.6%) patients and 8 of 337 (2.3%) patients, respectively. Several studies have demonstrated that the new or changing melanocytic lesions associated with BRAF inhibitor therapy invariably lack \(BRAFV600E\) mutation. A biological mechanism similar to that proposed for the development of squamous proliferative lesions while on BRAF inhibitor therapy may also be involved in the development of new or progression of existing melanocytic lesions. Histologic examination of nevi associated with BRAF inhibitor therapy showed increased melanin pigmentation within the stratum corneum, epidermal keratinocytes, dermal melanophages; and deep HMB-45 expression.

References

Case 4
History: A biopsy from the left thigh of a 64-year old man was submitted to rule out “SCC”.
Diagnosis: Lymphomatoid papulosis type C

Discussion
Lymphomatoid papulosis (LyP) is a chronic and recurring cutaneous lymphoproliferative disorder that presents as multiple lesions and can mimic anaplastic large cell lymphoma (ALCL). There are currently seven histologic subtypes of LyP and histology together with immunostains can help in classifying its subtypes. LyP type A is the most common type which resembles a histiocytic neoplasm. The CD30+CD4+ cells of LyP type B infiltrate the epidermis mimicking patch stage mycosis fungoides. LyP type C is characterized by a diffuse proliferation of CD30+CD4+ atypical cells resembling anaplastic large cell lymphoma. The CD30+CD8+ cells of LyP type D infiltrate the epidermis in a pagetoid pattern.
Type E is characterized by CD30+CD8+ tumor cells that are angioinvasive. The recently described type F is characterized by CD30+ tumor cells that are negative for both CD4 and CD8.

Lymphomatoid papulosis (LyP) is a chronic and recurring cutaneous lymphoproliferative disorder that presents as multiple lesions and can mimic anaplastic large cell lymphoma (ALCL). There are currently seven histologic subtypes of LyP and histology together with immunostains can help in classifying its subtypes. LyP type A is CD30+CD4+ and the most common type which resembles a histiocytic neoplasm. The CD30+CD4+ cells of LyP type B infiltrate the epidermis mimicking patch stage mycosis fungoides. LyP type C is characterized by a diffuse proliferation of CD30+CD4+ atypical cells resembling anaplastic large cell lymphoma. The CD30+CD8+ cells of LyP type D infiltrate the epidermis in a pagetoid pattern. Type E is characterized by CD30+CD8+ tumor cells that are angioinvasive. The recently described type F is characterized by CD30+ tumor cells that are negative for both CD4 and CD8.

References

Case 5

History: A young man from India presented with a forehead nodule

Diagnosis: Histoid leprosy

Discussion
Considered by some as a variant of lepromatous leprosy, histoid leprosy often present as a cutaneous or subcutaneous, firm, and shiny papules, nodules, or plaques on the face, extremities, back and buttock. On histologic section, the lesion is well circumscribed often with a pseudocapsule and comprised of spindle shaped histiocytes that resembles a histiocytic neoplasm. The acid-fast bacilli are elongated and conform to the shape of the histiocytes.

Other histiocytic proliferations that can mimic a neoplasm include Rosai-Dorfman disease, malakoplakia, and crystal-storing histiocytosis. First reported in 1969 by Rosai and Dorfman, sinus histiocytosis with massive lymphadenopathy is a rare benign lymphoproliferative process. It is usually a nodal disease but extranodal sites can be involved. The disease can be localized as one or multiple lesions, disseminated, and with or without systemic involvement. It is characterized by S100+, CD68+, CD163+, CD1a- and Langerin- histiocytes. The large histiocytes exhibiting emperipolesis has been shown to be S100+CD31+.

References


