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Angioinvasive lymphomatoid papulosis (type E)

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Background: Lymphomatoid papulosis (LyP) is an indolent CD30 positive lymphoproliferative disorder characterized by recurrent, self-healing papulo-nodules. LyP type E is a recently described rare subtype of lymphomatoid papulosis. It is distinguished by its angiocentric and angiodestructive histologic features and larger, eschar-like ulcerations. The diagnosis of LyP type E depends on clinical, histologic, and immunohistochemical findings rather than TCR clonality studies.

Case Description: A 51-year-old man presented with several months of recurrent necrotic, ulcerations. The first was on his right cheek and resolved after several weeks. He subsequently developed a second on the left arm, and then another on his left flank (measuring 2.2 cm). The patient was biopsied for H&E and tissue culture obtained. At 3-week follow-up, the ulcerations were self-resolving.

Pathology: Dense dermal and subcutaneous mixed inflammatory infiltrate in an interstitial and angiocentric distribution. The infiltrate consists of large, hyperchromatic lymphocytes in addition to smaller lymphocytes, histiocytes and eosinophils. At least 75% of the large atypical lymphocytes demonstrate CD30+ immunostaining. There is diminished CD5 and CD7 immunostaining. The CD4 to CD8 ratio is ~8:1.

Images: Macroscopic photographs of both large escharotic ulcerations and resolving ulcerations on the left flank and left arm; photomicrographs of H&E and CD30 staining.

Conclusions: This case exhibits an uncommon subtype of LyP. The angiocentric growth and large eschar-like ulcerations that typify LyP type E may resemble aggressive angiocentric lymphoma. Increased awareness of the range of clinical and histologic presentations of LyP should help avoid misdiagnosis of highly malignant lymphoma mimickers.

Commercial disclosure: None identified.

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Effect of TGF-β1/COX-2 small interfering RNA combination product (STP705) on cell viability and tumor growth in a human squamous carcinoma xenograft tumor model in nude mice

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Background: TGF-β1 and COX-2 overexpression plays key role in tumorigenesis of nonmelanoma skin cancer. STP705 is a combination of TGF-β1/COX-2 siRNAs formulated in histidine-lysine copolymer nanoparticle delivery system. We studied the effect of STP705 on the growth of human squamous carcinoma (A431) xenograft tumors in nude mice and viability of human cutaneous squamous carcinoma (HSC-1) cells.

Methods: A431 xenograft tumors were implanted subcutaneously into 32 female nude mice (n = 8/group). Group 1 received vehicle control, group 2 (high-dose) received 40 μg STP705, group 3 (low-dose) received 20 μg STP705, and group 4 received 0.5 mg/kg cisplatin (DDP). Intratumoral test article administration and tumor volume measurements were conducted every two days for 15 days. HSC-1 cell viability was determined at 72 hours post-transfection.

Results: STP705-high, STP705-low, and DDP groups reported significantly lower mean tumor volume at days 13 ($P = .042$, $P = .015$, $P = .027$; respectively) and 15 ($P = .036$, $P = .027$, $P = .024$; respectively) compared with control group. STP705-high ($P = .004$), STP705-low ($P = .012$), and DDP ($P = .026$) groups reported significantly lower mean tumor weight compared with control group. The DDP group reported significantly lower mean body weight at days 13 ($P < .02$) and 15 ($P < .01$) compared with STP705 and control groups. STP705-transfected HSC-1 cells demonstrated dose-dependent reduction of viability and reported lower mean viability (32%) as compared with TGF-β1-alone (53%) or COX-2-alone (59%) siRNA transfected cells.

Conclusions: The data suggests that STP705-treatment i) inhibits tumor growth, ii) reduces tumor cell viability, and iii) does not result in loss of body weight. Overall, STP705 is an innovative siRNA-based treatment that demonstrates significant suppression of tumor growth in human squamous carcinoma xenograft mouse model.

Commercial disclosure: Sirnaomics.

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Psoriasis by body region: Does site predict recurrence?

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Psoriasis plaques often recur in the same region and sometimes in the exact area of previous lesions. Some authors have demonstrated that sentinel primed dendritic cells permanently geolocate the areas of the skin, which may explain these areas of relatively exact recurrence. Moreover, persistent structural and immunologic gene changes, a "molecular scar," have been identified in healed psoriatic lesions post-therapy. Field effects due to local microbiome or other environmental factors may also explain recurrence tendency in the same general area. To explore this phenomenon, we asked patients to recall their lesion distribution history. 42 patients at an academic institution and private practice in Massachusetts and New Jersey were queried with an IRB approved survey in 2017. All patients had dermatologist-diagnosed psoriasis at time of survey. The majority of respondents were male (64%; n = 27) and average age was 52 years old. Most subjects experienced initial psoriasis on the arms or legs (n = 23, 55%). When asked where psoriasis recurred post-treatment, 21% described "same place" recurrence and 66% described it as occurring in the "same place and some new places." Only 5% described occurring in new places. Subjects who first experienced scalp disease were likely to experience scalp recurrence. Patients with groin disease with expansion were highly likely to expand into the groin area. Our study supports persistent local site activation of psoriasis, particularly at areas with a differential microbiome such as the scalp and groin. These findings may be useful in counseling patients about possible disease extension.

Commercial disclosure: None identified.

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Recurrent toxic epidermal necrolysis induced by doxycycline

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Background: Toxic epidermal necrolysis (TEN) is a life-threatening mucocutaneous disorder typified by widespread erythema, necrolysis and bullous detachment. Existing on a clinical continuum with Stevens-Johnson syndrome (SJS), it is most commonly triggered by medications, but can occur secondary to infectious or environmental factors.

Case Report: A 76-year-old Melanesian woman with a history of TEN following exposure to griseofulvin presented with a one week history of an evolving vesicular rash after taking doxycycline. Skin biopsies revealed an acute lichenoid reaction with erythema multiform/TEN-like features. Diagnosis of TEN was made with acute progression to a widespread bullous eruption and subsequent detachment involving 90% body surface area.

Discussion: Only four cases of recurrent SJS/TEN occurring following exposure to medications of different classes have previously been reported. Recurrent SJS has been documented more frequently in the paediatric population, particularly in association with Mycobacteria pneumoniae infection. This is the second case of doxycycline associated TEN reported in the English language literature. A further five cases of SJS have occurred secondary to doxycyline and two have been reported following exposure to minocycline.

Conclusions: Recurrent TEN is extremely rare but may occur with exposure to different therapeutic agents, infections and environments. Doxycyline is a commonly used medication and dermatologists should be aware of the possibility of it precipitating TEN.

Commercial disclosure: None identified.