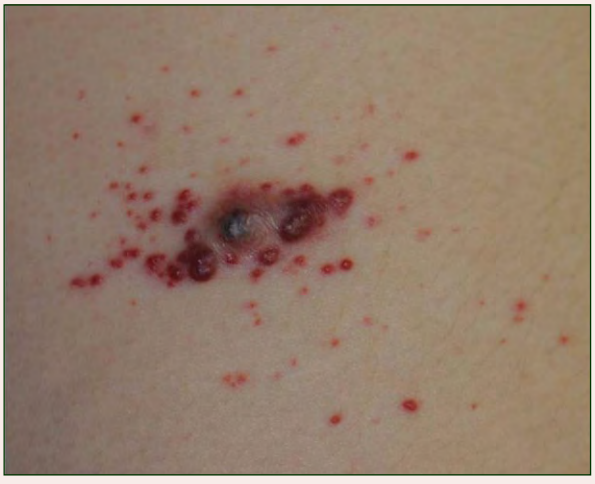
Erythematous Friable Papules on the Flank

What's the diagnosis?



An 11-year-old girl presented to our clinic with a small erythematous friable papule on the right side of the flank. She reported that the papule bled easily and was mildly tender to palpation. A shave biopsy with electrocautery to the base of the lesion was performed. The patient returned 1 month later with recurrence of the papule and was treated with a 595-nm pulsed dye laser during her clinic visit. She returned 3 weeks later with persistence of the same papule and also with several new smaller but similar-appearing papules.

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The authors report no conflict of interest.
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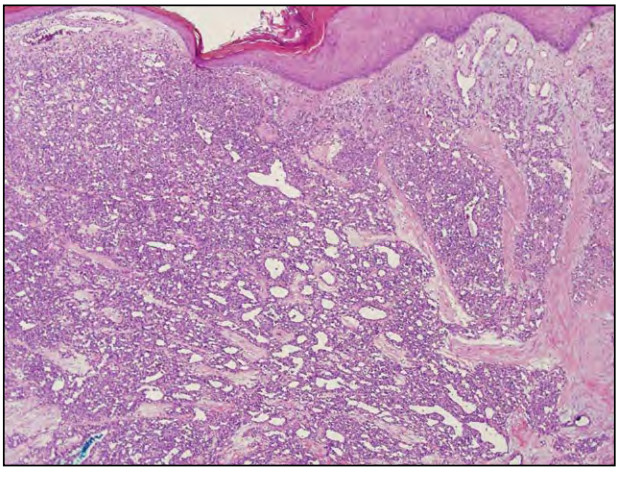
The Diagnosis: Recurrent Pyogenic Granuloma With Satellite Papules

Pyogenic granulomas, also known as lobular capillary hemangiomas, are common benign, friable, rapidly growing, erythematous and exophytic papules with a surrounding collarette of scale. Due to the friable nature of these lesions, they are often hemorrhagic and ulcerative on presentation; however, disseminated pyogenic granulomas frequently are more sessile in appearance with a smooth surface. The pathogenesis of these lesions is largely unknown, but they exhibit a number of clinical features suggestive of reactive neovascularization.[1]

Primary pyogenic granulomas occur most often on sites with high vascularity (eg, gingiva, lips, fingers, face, tongue), but no site on the skin is exempt.[2,3] They are found most commonly in children and young adults after minor trauma and also are associated with pregnancy with a higher frequency of occurrence on the gingiva in that particular setting.[2]

The differential diagnosis of pyogenic granuloma includes warts or inflamed intradermal nevi as well as bacillary angiomatosis and Kaposi sarcoma in an immunosuppressed patient. Most importantly, pyogenic granulomas can be confused with amelanotic melanoma; therefore, biopsy to rule out this condition is mandatory. On histopathology, pyogenic granuloma is characterized by a proliferation of capillaries arranged in a lobular pattern separated by a pale stroma (Figure).



The epidermis showed focal thinning. Within the dermis was a lobular proliferation of new blood vessel formation along vascular spaces lined by endothelial and perithelial cells. No cytologic atypia was noted (H&E, original magnification ×25).

Pyogenic granulomas usually are solitary lesions; however, recurrence after treatment is common. These benign growths have been reported to arise from certain systemic agents including epidermal growth factor receptor inhibitors, systemic retinoids, and indinavir.[1] Disseminated pyogenic granulomas are rare, but cases in children and adults have been reported, many associated with prior trauma. In addition, congenital disseminated pyogenic granulomas have been described, which could be easily confused with infantile hemangiomatosis; however, the former are *GLUT-1* (glucose transporter type 1) negative.[4]

Although recurrence of pyogenic granulomas is common, recurrence with satellite lesions is relatively rare. In documented cases, such as the Blickenstaff et al[2] report, recurrences occurred most commonly on the trunk, especially in the scapular area in adolescents and young adults. They often occur after prior irritation or treatment of the primary lesion but also may spontaneously develop. After initial therapy, satellites may arise either with or without recurrence of the primary lesion. These satellite lesions usually are smaller than the original lesion, smooth, bright red, are not as friable, and lack a collarette.[2,3]

Recurrence of pyogenic granulomas with satellite lesions has been reported to occur in association with almost all forms of treatment, including excision with cautery and CO_2 laser. These recurrences have been successfully treated with simple excision, cryotherapy, diathermy, and curettage; however, some physicians recommend a conservative approach to therapy, as a majority of these lesions tend to spontaneously resolve after 6 to 12 months.[2,3,5]

Ezzell et al[6] and others have reported successful treatment of pyogenic granulomas with imiquimod cream 5%. Imiquimod is thought to trigger resolution of pyogenic granulomas due to its antitumor and immunoregulatory effects. As a topical agent, imiquimod would offer patients a safe and noninvasive therapy that would be especially beneficial for larger lesions with satellites, similar to the papules described in our patient.[6,7]

After a repeat biopsy in our patient confirmed pyogenic granuloma, she was started on imiquimod cream 5% applied nightly, which continued for 6 weeks. Follow-up after 6 weeks revealed no change in lesion size and the family opted to discontinue treatment at that time because of a lack of response. Although a continued conservative approach was recommended by our facility, the patient and guardians opted for

surgical excision and were referred to a local pediatric surgeon for excision under general anesthesia.

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