

# Acneiform Eruptions

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Acne-like eruptions represent a variety of disorders. These include gram-negative folliculitis, nevus comedonicus, steroid acne, acneiform drug eruptions, rosacea, amineptine acne, chloracne, perioral dermatitis, eruptive vellus hair cysts, sporotrichosis, coccidioidomycosis, secondary syphilis, and even tuberous sclerosis. The comedone is not exclusive to acne vulgaris, nor is the acneiform papule. The acne papule is really a special perifollicular papulopustule. Suppuration begins at a deep level and is linked with an inflammatory exudate. Other disorders may resemble it.

## Nevus Comedonicus

Comedones may occur alone, congenitally, or later in life as a result of occupational exposure.<sup>1,2</sup> Nevus comedonicus is an infrequently occurring developmental anomaly that resembles a deformed pilosebaceous apparatus. It is evident clinically as confluent clusters of dilated follicular orifices plugged with keratin, giving the appearance of aggregated open comedones.<sup>3,4</sup> It is also known as comedone nevus and nevus acneiformis unilateralis. It is evident at birth in about 50% of cases. The differential diagnosis of nevus comedonicus includes familial dyskeratotic comedones, and linear comedone formations usually linked with acne vulgaris or chronically sun-damaged skin (Favre-Racouchot disease). Infrequently, multiple comedones in other unusual contexts may raise nevus comedonicus as a possible consideration.

## Eruptive Vellus Hair Cysts

Eruptive vellus hair cysts, which are developmental anomalies of vellus hair follicles, appear as multiple comedo-like flesh-colored papules on the face, chest, neck, thighs, groin, buttocks, and axillae.<sup>5</sup> Histopathology reveals a mid-dermal epithelial cyst that contains keratinous material and vellus hairs. Lesions may regress spontaneously, form an open pore to the surface of the epidermis, or undergo degradation of



FIGURE 1. Steroid acne on the shoulder.

the cyst's epithelial lining with resultant foreign-body granulomatous formation. Similar lesions in family members suggest a hereditary component.

## Tuberous Sclerosis

Angiofibromas are connective tissue hamartomas that can appear as multiple flesh-colored papules on the face.<sup>6</sup> They are a common skin presentation in tuberous sclerosis, along with hypopigmented macules, shagreen patches, café-au-lait macules, molluscum fibrosum pendulum, forehead fibrous plaque, periungual fibromas, and confetti-like macules. Treatment is difficult, and has included laser ablation, surgical excision, curettage, cryosurgery, chemical peel, dermabrasion, and isotretinoin.<sup>6,7</sup>

## Amineptine Acne

Certain drugs have also been shown as a cause of papules and pustules. Amineptine, a tricyclic antidepressant, at high doses can induce a severe facial acne that may also appear on the thorax, extremities, or perineal regions.<sup>8,9</sup> The eruption usually clears after stopping the drug and has responded in some cases to isotretinoin.

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**FIGURE 2.** Chloracne on the face.

### Other Acneiform Drug Eruptions

Generalized pustular eruptions of aseptic pustules follow administration of oral medications, most commonly antibiotics.<sup>10</sup> They usually develop in febrile patients with leukocytosis. Other less frequent offenders include subcutaneously injected dexamethasone,<sup>11</sup> the oral antifungal nystatin,<sup>12</sup> and the antipsychotic olanzapine.<sup>13</sup> Lithium is also an antipsychotic that may induce a follicular acneiform eruption.<sup>14</sup>

### Steroid Acne

Steroid acne may occur after the administration of topical or systemic corticosteroids.<sup>15</sup> It is characterized by monomorphous papulopustules with greater involvement of the trunk and extremities than the face and usually resolves upon discontinuation of the causative agent (Figure 1). Steroid acne may occur from oral, topical, intravenous, or inhaled therapy.<sup>16,17</sup>

### Chloracne

Chloracne is an acneiform reaction from exposure to halogenated aromatic hydrocarbon compounds such as chlorinated dioxins and dibenzofuranes.<sup>18</sup> It mainly appears on the skin as polymorphous comedones and cysts (Figure 2) and may also involve changes in the ophthalmic, nervous, and hepatic systems. Some chloracnogens can be oncogenic. Associated skin findings include xerosis and pigmentary changes. Contact may be through direct exposure or by inhalation or ingestion of contaminated compounds or foods. Treatment is difficult. Once present, chloracne may persist for years, even without further exposure. Chemicals that contain iodides, bromides, and other halogens can also in-

duce an acneiform eruption similar to that of steroid acne; however, the iodide-induced eruption may be more marked.

### Folliculitis

Infections may also display an acneiform pattern. Gram-negative folliculitis may be a complication in patients receiving prolonged antibiotic treatment for acne vulgaris or rosacea. It appears as persistent papulopustules resistant to usual acne therapy.<sup>19</sup> The papulopustules contain gram-negative bacilli and gram-negative rods, including *Escherichia coli*, *Klebsiella*, *Enterobacter*, and *Proteus* species. It has been shown to resolve with appropriate antibiotic coverage. Isotretinoin is also an effective alternative treatment.

Pityrosporum folliculitis, another type of folliculitis, is caused by the yeast *Malassezia furfur*, previously named *Pityrosporum ovale*, and it can appear primarily on the trunk and upper extremities as an acneiform eruption.<sup>20</sup> Unlike acne vulgaris, *Pityrosporum* folliculitis has no comedones and does not respond to systemic antibiotic therapy.

### Other Infections

Secondary syphilis may become evident as an acneiform skin eruption. It occurs on the face, trunk, and extremities as nodules and crusted papulopustules.<sup>21,22</sup> Skin biopsy specimens, serologic tests, and the presence of spirochetes from lesions on darkfield microscopy reveal the diagnosis.

Mycotic infections, such as sporotrichosis or coccidioidomycosis, may also manifest cutaneously with papules and nodules, which may ulcerate and crust.



FIGURE 3. Perioral dermatitis.

Although most sporotrichosis infections consist of the lymphocutaneous type, there is also a persistent fixed localized cutaneous papulonodular eruption that may involve the face.<sup>23,24</sup> The causative organism, *Sporothrix schenckii*, can be demonstrated by skin biopsy, peripheral blood smear, and fungal culture.

Cutaneous coccidioidomycosis is an infection caused by *Coccidioides immitis* from soil and dust that usually results from dissemination from the lungs and rarely from primary inoculation. It usually appears as papulonodules, pustules, or plaques that can eventually ulcerate and crust.<sup>25</sup>

### Rosacea

Rosacea appears on the face with acneiform papules and pustules. In addition, patients with rosacea may have facial flushing, telangiectases, and cysts with a risk for chronic sebaceous and connective tissue hyperplasia of the nose (rhinophyma).<sup>26</sup> Although the definitive etiology is unknown, triggers and exacerbators include hot spicy foods and alcohol. Acne rosacea has also been associated with the ingestion of a high-dose vitamin B supplement.<sup>27</sup>

### Perioral Dermatitis

Perioral dermatitis, mostly seen in the young female white population, also appears as papulopustules with erythematous bases<sup>28</sup> (Figure 3). Located predominantly periorally, the eruption may also include the perinasal and periorbital areas and characteristically spares the vermilion border of the lip. Although the etiology is unknown, suggested causative agents include topical or inhaled corticosteroids, moisturizers, fluorinated compounds, and contact irritants or allergens.

### REFERENCES

1. Adams PB, Cherry VB, Mutasin DF: Periorbital comedones and their relationship to pitch tar: a cross-sectional analysis and a review of the literature. *J Am Acad Dermatol* 42: 624-627, 2000.
2. del Río E: Peculiar distribution of comedones: a report of three cases. *Dermatology (Basel)* 195: 162-163, 1997.
3. Lefkowitz A, Schwartz RA, Lambert WC: Nevus comedonicus. *Dermatology (Basel)* 199: 204-207, 1999.
4. Bogdanowski T, Rubisz-Brzezinska J: Naevus comedonicus giganteus. *Przegl Dermatol* 75: 305-307, 1998.
5. Held JL, Andrew JE, Toback AC: Eruptive vellus hair cysts. *Cutis* 40: 259-260, 1987.
6. Jozwiak S, Schwartz RA, Janniger CK, et al: Skin lesions in children with tuberous sclerosis complex: their prevalence, natural course, and diagnostic significance. *Int J Dermatol* 37: 911-917, 1998.
7. Song MG, Park KB, Lee ES: Resurfacing of facial angiofibromas in tuberous sclerosis patients using CO<sub>2</sub> laser with flashscanner. *Dermatol Surg* 25: 970-973, 1999.
8. Grimalt R, Mascaro-Galy JM, Ferrando J, et al: Guess what? Macronodular iatrogenic acne due to amineptine. *Eur J Dermatol* 9: 491-492, 1999.
9. Vexiau P, Gourmel B, Castot A, et al: Severe acne due to chronic amineptine overdose. *Arch Dermatol Res* 282: 103-107, 1990.
10. Roujeau JC, Bioulac-Sage P, Bourseau C, et al: Acute generalized exanthematous pustulosis: analysis of 63 cases. *Arch Dermatol* 127: 1333-1338, 1991.
11. Demitsu T, Kosuge A, Yamada T, et al: Acute generalized exanthematous pustulosis induced by dexamethasone injection. *Dermatology (Basel)* 193: 56-58, 1996.
12. Rosenberger A, Tebbe B, Treudler R, et al: Acute generalized exanthematous pustulosis induced by nystatin. *Hautarzt* 49: 492-495, 1996.

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13. Adams BB, Mutasim DF: Pustular eruption induced by olanzapine, a novel antipsychotic agent. *J Am Acad Dermatol* 41: 851-853, 1999.
14. Kanzaki T: Acneiform eruption induced by lithium. *J Dermatol* 18: 481-483, 1991.
15. Hurwitz RM: Steroid acne. *J Am Acad Dermatol* 21: 1179-1181, 1989.
16. Fung MA, Berger TG: A prospective study of acute-onset steroid acne associated with administration of intravenous corticosteroids. *Dermatology (Basel)* 200: 43-44, 2000.
17. Monk B, Cunliffe WJ, Layton AM, et al: Acne induced by inhaled corticosteroids. *Clin Exp Dermatol* 18: 148-150, 1993.
18. Tindall JP: Chloracne and chloracnegens. *J Am Acad Dermatol* 13: 539-558, 1985.
19. Neubert U, Jansen T, Plewig G: Bacteriologic and immunologic aspects of gram-negative folliculitis: a study of 46 patients. *Int J Dermatol* 38: 270-274, 1999.
20. Borton LK, Schwartz RA: Pityrosporum folliculitis—a common acneiform condition of middle age. *Ariz Med* 38: 598-601, 1981.
21. Harden D, Keeling JH: Papular and nodular lesions of the scalp, face, and neck: secondary syphilis. *Arch Dermatol* 133: 1027-1030, 1997.
22. Lambert WC, Bagley MP, Khan, MY, Schwartz RA: Pustular acneiform secondary syphilis. *Cutis* 37: 69-70, 1986.
23. Kusuha M, Hachisuka H, Sasai Y: Statistical survey of 150 cases with sporotrichosis. *Mycopathologia* 102: 129-133, 1988.
24. Prose NS, Milburn PB, Papayanopoulos DM: Facial sporotrichosis in children. *Ped Dermatol* 3: 311-314, 1986.
25. Schwartz RA, Lamberts RJ: Isolated nodular cutaneous coccidioidomycosis. The initial manifestation of disseminated disease. *J Am Acad Dermatol* 4: 38-46, 1981.
26. Forstinger C, Kittler H, Binder M: Treatment of rosacea-like demodicidosis with oral ivermectin and topical permethrin cream. *J Am Acad Dermatol* 41: 775-777, 1999.
27. Sherertz EF: Acneiform eruption due to “megadose” vitamins B6 and B12. *Cutis* 48: 119-120, 1991.
28. Marks R, Black MM: Perioral dermatitis: a histopathological study of 26 cases. *Br J Dermatol* 84: 242-247, 1971.