Massive exophytic abscesses and fibrotic masses of the chin: A variant of the follicular occlusion triad

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We present a patient with an extensive cluster of exophytic nodules that developed on his chin. These nodules consisted of abscesses and fibrotic areas. Lesion morphology, histology, and microbiology support a follicular occlusion triad entity. However, the distribution is striking and does not fit the entities described in the triad. We present the case to show that follicular occlusion was the inciting factor in our patient’s eruption and to broaden our concept of clinical manifestations that can arise from this pathologic process. (J Am Acad Dermatol 2003;48:S47-50.)

We report a unique case of massive, exophytic abscesses and fibrotic masses occurring on the chin and tracheostomy site of a 46-year-old white man who is ventilator dependent.

Although the morphologic features of the lesions on the chin do not fit precisely into one of the entities that constitute the follicular occlusion triad, we believe that they share similar pathogenic and histologic features and should be regarded as a variant.

CASE REPORT

The patient is a 46-year-old white man who is ventilator dependent and has been in a vegetative state since he sustained head injuries in a motor vehicle accident in 1979. Shortly after the accident, his mother noticed persistent “white heads” located primarily on his chin and nose. Inflammatory pustules and papules then developed on the chin in 1993, when a change was made from using a blade to an electric razor to shave the patient. The electric razor was used aggressively and often caused bleeding and redness over the chin. No treatment was sought for this eruption.

He was first examined by a dermatologist (L. B.) in 1994 when filiform warts developed on his left cheek. No inflammatory lesions were noted on the chin during that visit. A year later he was noted to have draining cysts and nodules of the groin, pubic area, scrotum, and base of the penis. Cultures were negative and a diagnosis of hidradenitis suppurativa was made. These lesions responded to tetracycline by a percutaneous endoscopic gastrostomy (PEG) tube.

In the summer of 1997, inflammatory papules and pustules recurred on the chin. A trial of tetracycline by a PEG tube was given for presumed acne conglobata. Short-term improvement occurred. However, repeated courses of tetracycline could not reproduce the initial response. Subsequently, doxycycline and minocycline by a PEG tube were tried on separate occasions but neither produced any significant response. Intralesional triamcinolone also was not effective in reducing the size of the lesions. The lesions became progressively larger and were intermittingly drained of pus.

The deep-seated pustules and inflammatory nodules progressively increased in size on the chin and behind the ears for the next year. The lesions eventually became a massive cluster of exophytic, abscessed, and fibrotic masses on the chin (Fig 1). Cystic, fluctuant masses were also present at the retroauricular sulci, tracheotomy site, and inguinal and crural folds. Foul-smelling drainage was noted over the pedunculated masses on the chin.

The patient was seen by us in consultation in October 1998 for surgical evaluation because the lesions were becoming sufficiently large to impinge on the tracheostomy site. The clinical photographs demonstrate the extent of the process on the chin at the time of operation in December 1998.

The patient has taken phenytoin and phenobarbital for 18 years to treat seizures. Other medications include lorazepam, potassium chloride, docusate sodium, and psyllium mucilloid. By history, no medication has been temporally associated with the exacerbation of this cutaneous process. His medical history is otherwise unremarkable.

The patient was treated with continuous-wave carbon dioxide laser ablation to remove the masses from the chin, retroauricular areas, and tracheotomy site (Fig 2). Photographs taken 8 weeks postoperatively demonstrate the beneficial result (Fig 3). Current treatment includes the use of a Silastic sheet molded to the chin for daily use. If an exacerbation occurs, we plan to administer isotretinoin by the PEG tube.

Work-up included Gram staining of purulent material, cultures (AFB, fungal, bacterial), routine histology, and special stains (Brown-Brenn, GMS, and acid-fast). Histology showed follicular hyperkeratosis (occlusion) and an infundibulofolliculitis superficially (Fig 4). Deeper sections were characterized by an interstitial lymphocytic inflammatory process with many neutrophils concentrated around follicles, suggesting a deep follicular inflammatory process with follicular rupture (Fig 5). Fibrosis and naked hair shafts were also noted in several sections. All
special stains were negative for organisms. Cultures were repeatedly negative; however, a gram-positive, anaerobic bacterial isolate, *Peptostreptococcus micros*, was cultured from one of the surgical specimens. This organism was thought to be a secondary bacterial invader and not pathogenic in this case. On the basis of the pathology, we suggest that follicular occlusion was the primary pathogenic factor in the development of these lesions.

**DISCUSSION**

Diseases in the follicular occlusion triad (hidradenitis suppurativa, acne conglobata, and dissecting cellulitis of the scalp) are thought to have similar pathogenic, histologic, and clinical features. All show follicular hyperkeratosis and subsequent poral occlusion as initiating events. Plugging of the pilosebaceous unit is followed by distension and eventual rupture of the follicle. A deep follicular inflammatory process ensues with abscess and sinus tract formation. Chronically, fibrosis becomes a significant feature in all of these entities. Any bacterial involvement is secondary.

Clinically, each follicular occlusion triad process is characterized by erythematous fluctuant nodules, draining sinuses, and chronic deep-seated scars. Distribution is the primary clinical factor that differentiates each disorder: hidradenitis suppurativa (axillae and groin), acne conglobata (back, chest, and buttocks), and dissecting cellulitis of the scalp. All 3 of these entities have been documented in a single patient. The simultaneous occurrence of the triad in 1 patient provides evidence that each of these 3 processes is similar and shares a common pathogenic mechanism.

Early in the course of disease, our patient had a facial eruption that was typical of acne vulgaris according to his mother’s description. Later, recurrent bouts of spontaneously draining fluctuant nodules developed in the groin and deep-seated pustules on the chin. He carried concurrent diagnoses of acne conglobata and hidradenitis suppurativa. The association of acne conglobata and hidradenitis suppurativa is well established. However, several reports also support an association between acne vulgaris and hidradenitis suppurativa.
pedunculated abscesses and face alone. With acne conglobata, although this process rarely affects the of the nodules and abscesses on the chin. He was diagnosed may have played in inducing these deeper lesions. Temporally, We are not sure what role the aggressive use of an electric razor occurred without any change in medication or medical treatment. 

The later course is more consistent with acne conglobata and groin, which is consistent with each of these diagnoses. Therefore, the early course can be explained by acne vulgaris alone. The later course is more consistent with acne conglobata and hidradenitis suppurativa.

The onset of deeper inflammatory nodules on the chin occurred without any change in medication or medical treatment. We are not sure what role the aggressive use of an electric razor may have played in inducing these deeper lesions. Temporally, it is the only change in his care that was associated with the onset of the nodules and abscesses on the chin. He was diagnosed with acne conglobata, although this process rarely affects the face alone. By December 1998, our patient had a massive cluster of pedunculated abscesses and fibroed nodules on his chin. Our differential diagnosis included acne conglobata, acne keloidalis conglobata, although with an unusual distribution, pseudofolliculitis barbae with secondary abscess formation, and infectious pyoderma. The morphology and distribution was unusual for any of these entities. In addition to the chin nodules, he had smaller but similar erythematous nodules around his tracheostomy site and behind his ears. Given the typical course of hidradenitis suppurativa in the groin, we considered the facial eruption to be a variant of one of the follicular occlusion triad entities. Further support of this observation is that one previous report has demonstrated hidradenitis suppurativa around an ostomy site, which was also present in this case.

Histology supports a follicular occlusion–type process, and special stains and cultures were negative for an infectious cause. Several histologic sections showed follicular occlusion, which we consider to be the inciting event. An infundibulofolliculitis was also noted and is a frequent finding in hidradenitis suppurativa. Other findings consisted of follicular distention, rupture, and extensive fibrosis. These findings are consistent with follicular occlusion triad disorders. Recent reports demonstrate that the pilosebaceous unit is the primary site occluded in hidradenitis suppurativa and that any apocrine ductal occlusion is secondary. Therefore, it is conceivable that any site containing follicles could be affected. In our patient, the chin, postauricular areas, and peristomal areas happened to be the sites affected. Microbiologic cultures excluded an infectious process. However, a culture was positive for a gram-positive anaerobic bacterium, Peptostreptococcus. We considered this organism to be a secondary pathogen on the basis of the routine histologic findings and the low pathogenic potential of this organism. Previous studies have shown that the presence of bacteria in hidradenitis suppurativa occurs secondarily and that Peptostreptococcus is the most common genus of anaerobe that is isolated in cases of hidradenitis suppurativa.

Although the histology, microbiology, and early morphologic features suggest a follicular occlusion–type process, the distribution and morphology of the lesions on the chin are quite unusual. Hidradenitis suppurativa and dissecting cellulitis of the scalp have not been reported on the chin. In addition, acne conglobata rarely affects the face. Therefore, the face is typically spared in these disorders. However, a case has been reported of hidradenitis suppurativa of the eyelid. In this case, the glands of Moll were presumed to be the site occluded. Our patient’s eruption was primarily on the chin and occurrence of these lesions at this site has not previously been reported.

The markedly exophytic and pedunculated masses on the chin were a late morphologic feature. These late features can be explained by the protracted course without successful medical treatment or surgical intervention during the past 12 months. The end result is an exaggerated, dramatically exophytic process that does not fit the clinical description of any acneiform process or pyoderma previously described. The early morphology, pathogenesis, and histology are all consistent with a follicular occlusion triad disorder. Therefore, we present this case as an extensive example of hidradenitis suppurativa with an unusual distribution on the chin. Both the distribution and extent of the eruption were unique, making our patient an intriguing case.

We thank Dr John S. Strauss for his help and recommendations regarding this manuscript.

REFERENCES
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