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PHOTOLETTER TO THE EDITOR

An erythematous folliculocentric papular lesion on the chest of a 60-year-old man: What is your diagnosis?

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Abstract

Folliculitis has many etiologies including bacterial, fungal, viral and parasitic. Therefore, an accurate determination of the cause is necessary to direct treatment. This is a case of a 60-year-old man who presented with an erythematous papule on his chest. Biopsy showed granulomatous inflammation, abscess formation, and the causative agent was Demodex. (*J Dermatol Case Rep*. 2011; 5(3): 56-57)

Key words:

demodex, folliculitis, histopathology

Introduction

Folliculitis presents as single or multiple erythematous papules, pustules, ulcerations, or blisters on hair bearing skin. There are multiple etiologies including bacteria, viruses, fungi, and parasites. Host risk factors include age and immunosuppresion. Skin breakage is often a predisposing factor, although some cases may originate due to bacterial overgrowth in intact skin, particularly in immunocompromised hosts. Because of the wide variety of etiologies, accurate identification is needed to appropriately treat the cause.

Case Report

A 60-year-old man presented with an erythematous papule on his chest. He did not have any evidence of immunosuppression. A punch biopsy was obtained. Sections stained with hematoxylin and eosin showed skin with a hair follicle and associated adnexal structures. There was a parafollicular abscess formation with foamy macrophages, giant cells, and histiocytes surrounded by lymphocytes. A degenerating parasite with cuticle and internal structures was noted within the abscess (Fig. 1).

Discussion

Folliculitis is caused by various infectious agents including bacteria, viruses, fungi, and parasites. The most common type is bacterial folliculitis usually caused by Staphylococcus aureus. Other bacterial agents that may cause folliculitis include Pseudomonas, Klebsiella, Proteus, and Treponema pallidum in secondary syphilis.[1] Fungal etiologies include the dermatophytes, Pityrosporum, and Candida. Rare viral folliculits is usually the result of Herpes virus infection.

Very rarely, folliculitis is caused by parasites of Demodex species. These parasites have tropism for hair follicles and sebaceous glands and commonly cause asymptomatic infestation in the face, scalp, neck, eyelids, and upper chest. The prevelance of Demodex infestation increases with age and is approximately 30% in young adults and almost 100% in middle to older aged adults.[1] When symptomatic infection occurs, it is most associated with older age and immunosuppresion (HIV infection, chemotherapy, organ transplantation).[1] An instance of immunosuppresion-induced Demodex infection was reported in the case of a 43-year-old male with tumor stage mycosis fungoides treated with total-skin electron beam therapy who developed multiple follicular pustules caused by Demodex overgrowth.[2]

Other predisposing factors are skin trauma as was the case for a 37-year-old male with skin trauma secondary to frequent shaving. Other predisposing factors include acne rosacea, granulomatous rosacea, pityriasis folliculorum, demodectic blepharitis, perioral dermatitis, and papulopustular scalp eruptions.[1]

The Demodex mite is covered with a cuticle and has a head, thorax, and abdomen. The head has needle-like protruding mouthparts used for consuming skin cells. There are eight legs that have three articulations and three terminal hooklets each. The abdomen and thorax are striated and semi-transparent. There are two species of Demodex: Demodex folliculorum and Demodex brevis. These two species vary in morphology and typical location in the skin. D. folliculorum are longer (~280 mm), have long tubular posterior segments, have arrow shaped eggs, and occupy the follicular infundibulum in groups of 10-15 members. D. brevis mites are shorter (~170 mm), have a more pointed posterior segment, oval eggs, and are present singly in sebaceous glands.[1] These parasites may be seen in cytological specimens (lesion fluid aspirates) as refractile tubular structures and body parts amidst a background of squamous cells, acute inflammation and fibrin.[1] There are also reports of Demodex mites found in potassium hydroxide preparations.[3,4]

Treatment for Demodex folliculitis is oral ivermectin and topical permethrin cream. There are also reports of successful treatment with crotamiton or 6% sulphur.[3,4] Demodex infestation may be diagnosed with biopsy after unsuccessful treatment with antibiotics.[3,4]

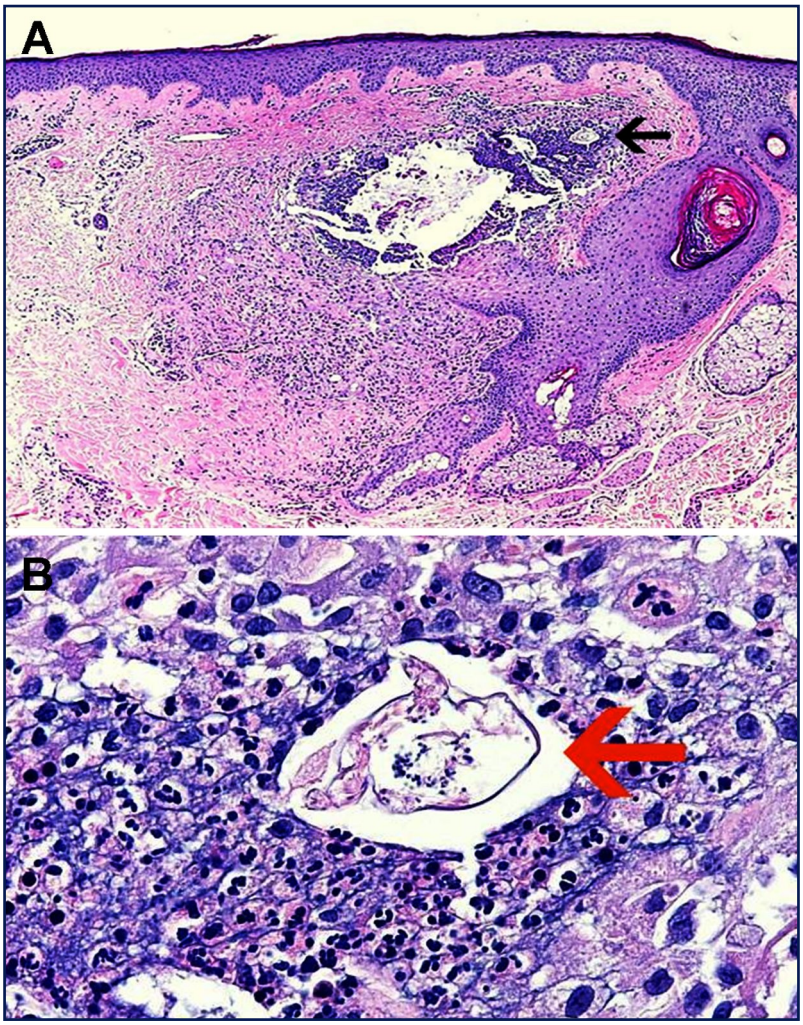

Figure 1

Low power view of the biopsy showing skin with a hair follicle and associated sebaceous gland. There is parafollicular dermal abscess formation and granulomatous inflammation. Black arrow points to the etiologic agent (A). Note the causative agent (red arrow) with well-defined cuticle surrounded by neutrophils within the abscess cavity. There is a blunt ended abdomen and leg structures with terminal hooklets (B).

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