



Calcinosis Cutis Secondary to Acne Vulgaris: A Rare Complication

Qais Nouri Zghair

Private Clinic, Muscat, Oman

Email: qaiszghair@gmail.com

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Abstract

Introduction: This abstract reports a case of calcinosis cutis, a rare complication of acne vulgaris, in a 30-year-old woman. Acne vulgaris is a common skin disease characterized by various lesions, including comedones, papules, pustules, and nodules. While hyperpigmentation and scarring are common complications, calcinosis cutis, involving calcium salt deposits in the skin and subcutaneous tissue, is rare. **Case Presentation:** A 30-year-old woman with a long history of skin-colored papules on her cheeks was diagnosed with comedonal acne. She was treated with isotretinoin (30 mg per day) for more than three months without improvement. On examination, multiple skin-colored papules of various sizes (2 - 6 mm) were observed primarily over the cheeks. A diagnosis of calcinosis cutis was suspected after noting the failure of isotretinoin therapy and absence of comedones on closer inspection of the skin using a magnifier lens. An X-ray revealed soft tissue calcifications along the acne lesions on both cheeks. Normal blood test results (serum calcium, vitamin D, parathyroid hormone, ANA) were obtained. The patient underwent surgical removal of the calcium deposits under local anesthesia. **Discussion:** Calcinosis cutis is a rare but significant complication of acne vulgaris. It presents as calcium salt deposits in the skin, typically in areas with long-standing acne lesions. A detailed clinical and radiographic examination is essential for diagnosis, and surgical removal is a potential treatment option.

Subject Areas

Dermatology

Keywords

Acne Vulgaris, Calcinosis Cutis, Complications, Facial

1. Introduction

Acne vulgaris is a common dermatological condition, primarily involving the se-

baceous glands' overproduction of sebum, leading to various types of lesions, such as comedones, papules, pustules, and nodules [1]. Although acne can lead to scarring and hyperpigmentation, calcinosis cutis remains a rare complication. This condition involves the deposition of calcium salts in the skin and subcutaneous tissues, resulting in the formation of nodules or plaques.

There are four main types of calcinosis cutis: dystrophic, metastatic, iatrogenic, and idiopathic. Calcinosis cutis secondary to acne vulgaris falls under the dystrophic category, where calcium deposits occur in previously damaged tissue [2]. This report presents a case of calcinosis cutis as a rare complication of acne vulgaris.

2. Case Presentation

A woman in her 30s presented with a longstanding history of skin-colored papules on both her cheeks. These lesions had been present for several years and had progressively worsened despite treatment. She was diagnosed with comedonal acne and prescribed isotretinoin (30 mg per day) for over three months. However, there was no improvement in her condition.

Upon clinical examination, the patient exhibited multiple skin-colored papules of varying sizes (ranging from 2 - 6 mm) predominantly over both cheeks (**Figure 1**). Given the lack of response to isotretinoin and the absence of comedones upon close inspection using a magnifier lens, a diagnosis of calcinosis cutis was considered.

Radiographic examination, including an X-ray of the face, revealed multiple soft tissue calcifications along the acne lesions on both cheeks (**Figure 2**). Further laboratory investigations, including serum calcium, vitamin D, parathyroid hormone, and antinuclear antibodies (ANA), returned normal results.

A diagnosis of calcinosis cutis secondary to acne vulgaris was confirmed. Subsequently, the patient underwent surgical removal of the calcium deposits under local anesthesia, with satisfactory results (**Figure 3**).



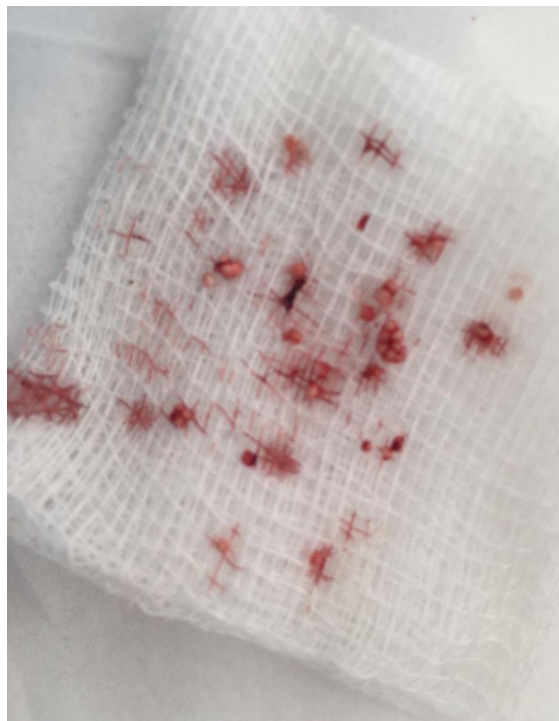
Multiple skin colored papules ranging from 2 - 6 mm over the right cheek.

Figure 1. Clinical presentation of skin-colored papules on both cheeks, characteristic of calcinosis cutis.



An X-ray shows multiple soft tissue calcification along acne lesions.

Figure 2. X-ray showing soft tissue calcifications along acne lesions on both cheeks.



Calcium deposits seen after surgical removal.

Figure 3. Postoperative image following surgical removal of calcium deposits.

3. Discussion

Calcinosis cutis is a rare but well-documented complication of acne vulgaris. It is more common in patients with longstanding or severe acne and occurs when calcium salts are deposited in damaged skin. The exact pathophysiology is not fully

understood, but it is believed that the chronic inflammation and fibrosis associated with acne can promote the deposition of calcium in affected tissues.

In this case, the patient's failure to respond to isotretinoin therapy and the absence of typical acne lesions prompted the suspicion of calcinosis cutis. The diagnosis was confirmed via X-ray imaging, which revealed characteristic calcifications. Although calcinosis cutis can be diagnosed clinically, imaging studies are often crucial in confirming the presence and extent of the calcium deposits.

Management of calcinosis cutis typically involves surgical excision of the calcified nodules, as medical treatments have not proven to be consistently effective [3]. This case highlights the importance of considering calcinosis cutis in patients with acne vulgaris who present with atypical skin changes or treatment resistance.

4. Learning Points

- Calcinosis cutis is a rare complication of acne vulgaris, characterized by the deposition of calcium salts in the skin.
- Diagnosis requires careful clinical examination, imaging, and exclusion of other conditions.
- Surgical excision of the calcium deposits is the treatment of choice for symptomatic cases.

5. Patient Perspective

The patient expressed relief following the surgical removal of the calcium deposits. She reported that the lesions on her cheeks had been a significant source of cosmetic concern and were resistant to conventional acne treatments. After the procedure, the patient noted a considerable improvement in both the appearance and texture of her skin.

Conflicts of Interest

The author declares no conflicts of interest.

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