A temporal skin lesion

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ABSTRACT

Epidermoid cysts are very common and therefore relevant to Family Medicine physicians in the primary care setting. Epidermoid cysts can undergo transformation if they become infected or ruptured, resulting in keratin granulomas. Importantly, these may be misdiagnosed or confused with malignancy and should be differentiated histologically after excision if a presumed epidermal cyst has an atypical presentation. In this article we are reporting a case of temporal keratin granuloma as a result of an epidermoid cyst rupture in a middle-aged man.

Keywords: Epidermoid cyst, keratin granuloma, ruptured cyst

Introduction

Epidermoid (sebaceous) cysts are the most common type of cutaneous cyst.¹⁻³ The name “sebaceous” is misleading as these lesions do not involve sebaceous glands.¹⁻⁴ Keratin, rather than sebum, is the material occupying the center of the cyst in most cases.¹⁻³ The diagnosis of a ruptured epidermoid cyst can be difficult as it may not show typical features of an epidermoid cyst. Therefore, it is important for primary care physicians to recognize typical and atypical presentations of these lesions in order to treat them appropriately.

Case Report

A 39-year-old male presented for an enlarging skin lesion on his left temple with recent color change. He noticed it 15 years ago, but it increased in size in the past 4 years. The lesion changed from flesh-colored to purple. It was neither painful nor itchy, but he often bumped it when applying hair gel. On physical examination, he had a symmetric round 7 mm violaceous soft nodule [Figure 1]. It subsequently erupted on its own, exuding rubbery brown discharge a few days before his scheduled removal procedure. By the second visit, the lesion had changed in size and appearance [Figure 2]. The lesion was then removed via excisional biopsy, revealing lymphohistiocytic inflammation involving the superficial to mid-dermis with scattered multinucleated giant cells, focally containing keratinaceous material, consistent with a keratin granuloma as a result of a ruptured epidermoid cyst.

Discussion

Epidermoid cysts are most commonly found on the head, neck, or trunk, but can also occur in the sites of prior skin trauma (such as surgical sites, or on the feet or hands).²⁻³,⁵⁻⁶ They arise from trauma to the pilosebaceous unit, resulting in misplaced stratified squamous epithelium that produces keratin underneath the epidermis.¹⁻⁴ This leads to a mobile firm nodule, often with a central punctum, that can become inflamed and erupt.⁰⁻²⁻³ They affect males in a 2:1 ratio and are also more frequent in those with acne as well as smokers.¹⁻⁵⁻⁶ They are considered benign lesions, but approximately 1% can undergo malignant transformation to squamous cell carcinoma or basal cell carcinoma.⁷

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The differential diagnosis of epidermoid cyst includes lipoma, abscess, acrochordon, dermoid cyst, neuroma, ganglion cyst, furuncle, pilonidal cyst, squamous cell carcinoma, and basal cell carcinoma.\[3,5,6\] Most epidermoid cysts have no associated systemic disease.\[6\] However, a patient with multiple epidermoid cysts should raise suspicion for Gardner syndrome, Favre-Racouchot syndrome, or nevoid basal cell carcinoma syndrome.\[1,2,5,6\]

If inflammation and/or eruption occurs, an epidermoid cyst can transform into a keratin granuloma due to a foreign body reaction of released cyst content into the dermis, as in this case, making clinical diagnosis becomes more challenging.\[5,6\] The main differential diagnosis to consider in keratin granuloma is an abscess from bacterial infection.\[5,6\] This can be differentiated by patient history, as a keratin granuloma is preceded by a non inflamed epidermoid cyst, whereas an abscess is not.\[6\] Other reactions to ruptured cysts include giant cell reaction, melanin pigmentation, and associated keloids or lipomas.\[2,5\]

Epidermoid cysts are very common and may present in primary care with a variety of shapes, sizes, and features. Therefore, family physicians should be familiar with these benign cystic lesions and perform excisional biopsy when there are atypical presentations in order to differentiate them from malignant lesions.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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