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A Rare Case of Postauricular Spontaneous Keloid in an Elderly Patient

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Abstract. *Keloid represents an exuberant wound healing response, usually secondary to trauma, inflammation, surgery, or burns. Spontaneous keloid formation is rare and it is controversial whether it is really spontaneous. It usually occurs in young people, and it is rare in elderly. Its main features are the infiltration of surrounding normal tissue, the rare regression and the evolution over time. We report the case of an 81 -year -old man with unexpected spontaneous keloid lesion in the right postauricular region. The diagnosis was hard to be performed because of the patient's age, the anatomical site of the lesion and the absence of skin trauma or injury history. Only the histological examination allowed us to perform the right diagnosis.*

Keloid is an abnormal wound response in predisposed individuals, due to an unusual and abnormal proliferation of fibroblasts and overproduction of collagen (1). The condition usually occurs in people aged 10-30 years, and is rarely in older people (2). Worldwide keloid prevalence varies by geographic ancestry from 0.09% in Great Britain to 16% in the Congo (3). It usually develops after trauma or injury (*e.g.* earlobe piercing, surgery, acne, chickenpox, surgical incision, burns or vaccination) (4). The spontaneous keloid development is a rare condition. We report the particular case of an 81-year-old man who presented with a nodular lesion in the right postauricular region, whose diagnosis was unexpectedly related to spontaneous keloid formation.

Case Report

An 81 -year -old patient presented with a lesion in the right postauricular region. The lesion occurred spontaneously ten years earlier, and had slightly bigger grown over time. At clinical examination the formation had a skin -colored appearance; it was nodular and regular in shape, 2 cm by 2 cm in size and raised. The lesion was soft, doughy and mobile over the underlying tissues (Figure 1). It was quite painful, tender and itchy at times. The patient had no history of trauma, surgery or acne.

Initially, we suspected the presence of a skin neoplasm, such as basal cell carcinoma, because of the lesion's location and the age of the patient. Other suspected diagnosis included squamous cell carcinoma and cutaneous sarcoidosis.

In accordance with current guidelines for suspected malignant skin neoplasm, we performed surgical excision of the lesion with swallowtail flap (5), and the specimen was sent to the pathologist. Unexpectedly the histology revealed an overgrowth of fibrous tissue, with collagen fibers lying in haphazardly connected loose sheets and randomly oriented to the epithelial surface (Figure 2). The histological examination allowed us to make the diagnosis of spontaneous keloid.

Discussion

Keloid is a condition characterized by excessive deposition of fibrous tissue and usually represents a connective tissue response to trauma, inflammation, surgery, or burns (6). The lesion is usually raised, red or pink, sometimes pruritic. The infiltration of surrounding normal tissue, the rare regression and the evolution over time are the main clinical features of keloid (1).

The mechanisms underlying keloid formation are only partially understood. Its formation has been attributed to altered growth factor regulation, aberrant collagen turnover, genetics, immune dysfunction, sebum reaction, and altered mechanics (7).

The risk factors that play a role in keloid development are various. The major ones are genetic predisposition, according to the greater frequency of this condition in darker-skinned individuals (1), and some form of skin trauma or injury such as earlobe piercing, surgery, acne chickenpox, surgical incision, burns and vaccination (8).

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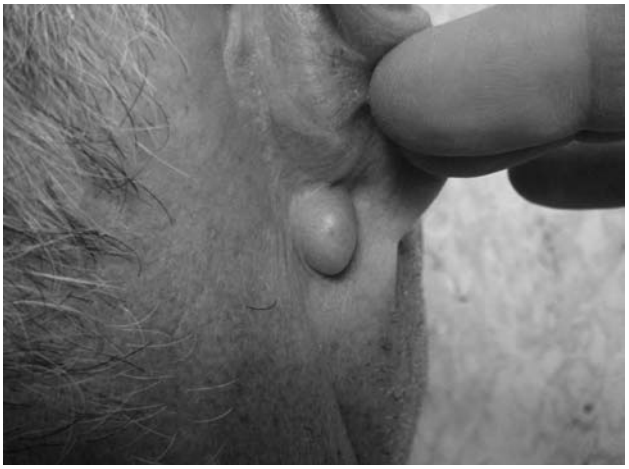

Figure 1. *Spontaneous keloid lesion in the postauricular region of the patient.*

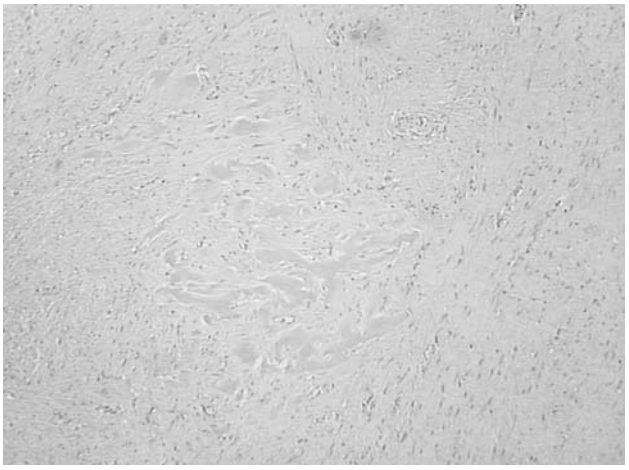

Figure 2. *The histological examination revealed an overgrowth of fibrous tissue, with collagen fibers lying in haphazardly connected loose sheets and randomly oriented to the epithelial surface. (Hematoxylin-eosin stain, original magnification ×40).*

The diagnosis of our patient's condition was difficult because of the unusual nature of the findings. The patient had no history of skin trauma, surgery, burn or acne, which could explain the development of keloid. Moreover the advanced age of the patient did not allow us to diagnose this kind of lesion at clinical examination. In fact, this condition is rare at extreme ages and tends to develop more readily in people aged 10-30 years (2), probably because young individuals are more frequently subjected to trauma and their skin is more elastic than the skin of elderly people (9). Moreover the retroauricolar location of the lesion rend the diagnosis hard.

Keloid occurs predominantly on the ear lobe, shoulders and sternal notch. The morphology of keloid is variable. The texture of the lesion can be soft and doughy or rubbery and hard and its color can change with age, from erythematous through brownish red to pale pink (4). Our patient's lesion had a skin-colored appearance, and was nodular, raised and regular in shape.

Spontaneous keloid development is a rare condition, and it is controversial whether it is in fact spontaneous. The scar tissue may form after an insignificant inflammatory reaction or injury which the patient has no recollection of. There is confirmed evidence of the association between spontaneous keloid formation and different diseases such as Dubowitz syndrome (10), Rubenstein–Taybi syndrome (11, 12) and Noonan syndrome (13). Spontaneous keloid has also been reported in siblings (14) and in people with allergic disease (15).

We excluded dermatofibroma because this kind of lesion is usually located on the extremities and is colored and small. We also excluded dermatofibrosarcoma protuberance because the patient's lesion was not ulcerated, did not invade the underlying structure and remained relatively unchanged in size. We suspected cutaneous sarcoidosis, known as the 'great imitator', which can be presented as raised nodular lesion and also skin neoplasm such as squamous cell carcinoma and basal cell carcinoma, in particular which is frequently located in the postauricular, region. In order to exclude this kind of disease, surgical excision of the lesion was performed. We did not suspect keloid formation because the patient has never had pathological scars in other parts of his body.

There are different treatment options for keloid depending on several factors, such as previous response to treatment, the patient's age, and the location and size of the affected area. Surgical excision is a second -line treatment for keloid management. Although temporarily gratifying, surgery is almost invariably followed (50 to 100%) by even more aggressive regrowth of the scar tissue. Therefore, all surgical options should be followed up by careful postoperative care (using occlusive dressings, compression therapy, intralesional corticosteroid injections or radiotherapy) (16).

Suspecting skin cancer, we performed surgical excision of the lesion together with 0.5 cm margin of clinically normal surrounding tissue. After 6 months, the keloid had no recurrence.

Conclusion

Because of the presented rare lesion with no risk factors, only the histological examination allowed a correct diagnosis to be made. On the basis of this case, spontaneous keloid should also be included in the differential diagnosis of similar lesions in the retroauricular region in elderly patients

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