A small, painful nodule on the ear rim

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What is the cause of this solitary nodule, and how should it be treated?

Case history

A 70-year-old woman has a seven-month history of a small painful nodule on the superior part of the rim of her right ear. The nodule has not been increasing in size. She was referred because of concerns that it might be a skin cancer. She generally sleeps on her right side but now finds this difficult because of her painful ear.

The nodule is red, tender and centrally scaly (Figure). Elsewhere, the cartilage of the rim of both ears has a few smooth bumps with no overlying inflammation. She is a keen gardener and lawn bowler, has sun damaged skin and has previously had some basal and squamous cell carcinomas excised from other sites.

Diagnosis

This woman has chondrodermatitis nodularis helicis (CDNH), which is a painful, usually solitary, red nodule, often scaling centrally.[1,2] More advanced cases ulcerate centrally, forming a crust over the ulcer. The condition always occurs over the most prominent part of the cartilaginous ear, most often the superior or posterior part of the rim or the antihelix. The exact site affected depends on the shape of the ear. Patients usually sleep on the affected side, and if they sleep on both sides it can be bilateral. Usually the person has sun damaged skin.

Differential diagnoses

- Basal cell carcinoma, squamous cell carcinoma or keratoacanthoma. With this woman's past history and sun damaged skin, these are the first thought. Clinically it can be hard to distinguish these three conditions from CDNH, although generally they would slowly increase in size. Biopsy may be needed to definitively rule these out; this should be done if the nodule does not respond to treatments for CDNH.
- Hypertrophic solar keratoses, sometimes with a cutaneous horn. These are more likely to transform to a squamous cell carcinoma than a nonhypertrophic seborrhoeic keratosis.
- Pickers' nodule. In this condition the skin thickens from repeated picking of various lesions, like a seborrhoeic keratosis or wart.
- Spectacle frame acanthoma (granuloma fissuratum). This is a nodule with a central fissure or groove found where the spectacle frame or earpiece rubs on the skin; thus, it is found behind the ear or on the side of the nose.

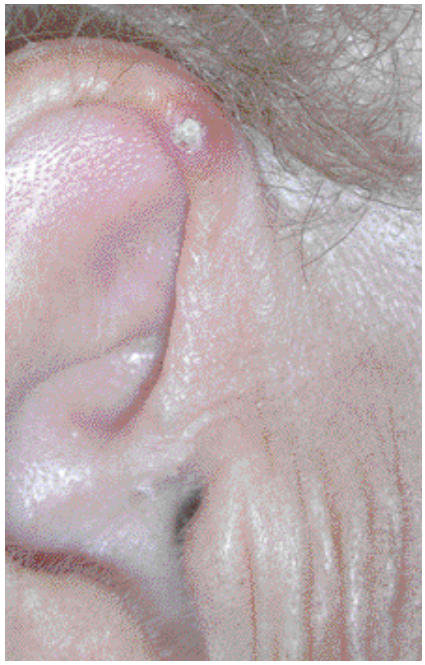

Figure. A red, tender and centrally scaly nodule on the superior part of the ear rim.

Comment

CDNH is fairly common in older people and more so in men than women. It is seen sometimes in younger people, usually outdoor workers.

Histopathology shows a central erosion or ulcer with hyperplasia of the surrounding epidermis. In the dermis there is perforation of degenerate collagen, heavily vascularised granulation tissue and an inflammatory infiltrate with changes to the underlying cartilage.

Little research has been done on CDNH, but factors that seem to be important in its aetiology are constant pressure from lying on the affected side, often sun damaged skin, and, sometimes, cold injury such as chilblains. The pressure somehow leads to inflammation around the cartilage, perhaps by ischaemia. Often the rim of the underlying cartilage is bumpy, and termed elastotic nodules of the ear or weathering nodules.[3] Probably they act as firm points on which pressure from the pillow leads to CDNH.

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Treatment

Conservative measures

- Protection from sun and cold.
- Simple pain relief.
- Sleeping on the other side (often CDNH has occurred because patients have had difficulty in doing this; also, I have induced CDNH on the other side with this advice).
- Measures to reduce pressure on the affected ear. One quite useful method is a piece of foam with a hole larger than the ear cut into it and held over the ear with a headband.[4] Another method is to place a larger piece of foam with a hole in it under the pillow slip (which is slit over the hole); however, movement while asleep limits the usefulness of this. Special pillows to reduce pressure on the affected ear are available from the USA.

Active treatments

- Intralesional corticosteroid (triamcinolone [Kenacort-A 10] 10 mg/mL or betamethasone [Celestone Chronodose] 5.7 mg/mL) injected into the dermis. This regimen often works well, but the effect may be only partial and CDNH often recurs. The injection can be given repeatedly, but skin atrophy may limit treatment.
- If the nodule is infected, antibiotic ointments such as mupirocin (Bactroban) may give temporary relief.
- Excision is the definitive treatment, particularly if other treatments have failed; however, patients should be warned that the condition might still recur. Excision is more difficult to perform for nodules on the antihelix. The inflamed skin and lumpy cartilage are revealed and shaved off, while being careful to leave flat cartilage, thereby minimising the chance of recurrence. Normal skin is used to close the defect, either with primary closure or a small flap.
- For those who decline surgery, cryotherapy sometimes works, at least temporarily, perhaps by allowing ejection of the degenerate material. MT

References

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DECLARATION OF INTEREST: None.