

BILATERAL HYPERTROPHIC EARLOBE SCARRING ASSOCIATED WITH NICKEL ALLERGY AND DERMATITIS ARTEFACTA

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Summary

Severe earlobe scarring after piercing can result from overlapping allergic, mechanical, infectious and psychocutaneous factors, creating diagnostic challenges in differentiating hypertrophic scars from keloids. We present the case of a 35-year-old woman with bilateral nodular, fibrotic and indurated earlobe lesions. The lesions had progressively enlarged over 21 years after improper ear piercing performed under non-sterile conditions and were accompanied by recurrent eczema and infection.

Patch testing confirmed nickel allergy, while histopathology showed hypertrophic scarring with chronic inflammation. Concurrent self-induced ulcerations, clinically compatible with dermatitis artefacta, suggested a psychocutaneous component that may also have perpetuated the earlobe scarring. Given the chronicity of the lesions, persistent symptoms and psychological context, surgical management was considered appropriate. The affected tissue was excised, and the earlobes were reconstructed using preauricular and retroauricular rotational flaps. Postoperative healing was uneventful. At 6 months, the earlobe contours were restored with no evidence of recurrence. This case underscores the importance of integrating allergy testing, histopathology and psychological assessment in the evaluation of post-piercing earlobe lesions. Recognition of ongoing self-induced trauma before surgery can guide management and reconstructive planning.

Keywords: dermatitis; nickel; body piercing; hypertrophic scar; factitious disorders; plastic surgery procedures.

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Introduction

Ear piercing may be complicated by allergic contact dermatitis (ACD), infection and abnormal scarring. Nickel, a metal commonly found in jewellery and clothing accessories, is a frequent trigger of ACD [1, 2]. Post-piercing earlobe lesions pose a diagnostic challenge because hypertrophic scars and keloids may overlap clinically. In patients with psychocutaneous disorders, repetitive self-induced trauma may perpetuate inflammation and tissue injury. We report an unusual case of severe bilateral earlobe scarring associated with nickel allergy, chronic

inflammation and clinically suspected dermatitis artefacta (DA), presenting both diagnostic and reconstructive challenges.

Case Report

We report the case of a 35-year-old woman who presented with multiple chronic atrophic lesions on the arms and legs, characterised by hypopigmented centres and coloured borders. The lesions were intensely pruritic, responded poorly to antihistamines and had worsened before presentation. Further examination revealed bilateral nodular-lobulated earlobe lesions

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with marked fibrosis, induration, focal erosions and yellow crusting (Figure 1). The lesions had progressively enlarged since bilateral piercing at the age of 14, performed by a family member under non-sterile conditions.

Patch testing confirmed nickel allergy. Punch biopsies were obtained from an earlobe lesion and a lower-leg lesion. Histopathology was consistent with hypertrophic scarring with a mixed inflammatory infiltrate in the earlobe and chronic eczematous changes in the lower-leg lesion. The absence of granulomas or necrosis made papulonecrotic tuberculid less likely. Based on the morphology and distribution of the limb lesions, together with clinical and psychosocial history, dermatitis artefacta was considered the most likely diagnosis. Repetitive self-induced trauma was considered a possible perpetuating factor in the chronic earlobe inflammation and scarring.

Under local anaesthesia, the scarred earlobe lesions were completely excised. A preauricular rotational flap was used for local reconstruction, and a retroauricular rotational flap was used to cover the posterior defects (Figure 2). Follow-up evaluations were conducted every two weeks during the first two months, monthly for the subsequent four months, and quarterly thereafter. At

six-month follow-up, healing was complete, the earlobe contours remained restored, and no recurrence was observed (Figure 3). The patient also reported improved psychosocial well-being.

Discussions

Body piercing may result in infectious, inflammatory, allergic and scarring complications [3]. Early complications of ear piercing are usually procedure-related and include bleeding, oedema, and local infection [1]. In nickel-sensitised individuals, prolonged contact with metal-containing earrings may trigger ACD and a weeping eczematous reaction. Ongoing inflammation may subsequently contribute to keloid-like scarring [4, 5].

In our case, the auricular lesions were confined to the earlobes. Repeated scratching, secondary infection, piercing-related trauma and nickel-associated inflammation likely acted together to promote progressive scarring. In addition, DA may have contributed to ongoing inflammation and tissue injury through repetitive self-induced manipulation of the already inflamed earlobe skin. The resulting deformity

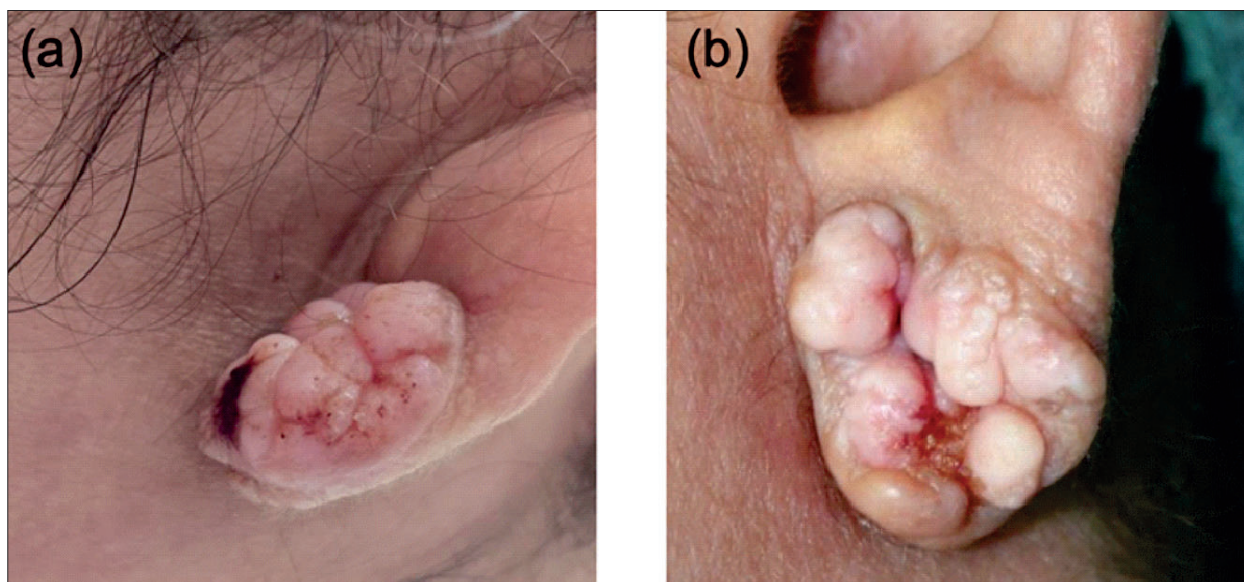


Figure 1. Preoperative clinical appearance of the earlobes demonstrating bilateral nodular, indurated lesions consistent with hypertrophic scarring. A. Right ear. B. Left ear.

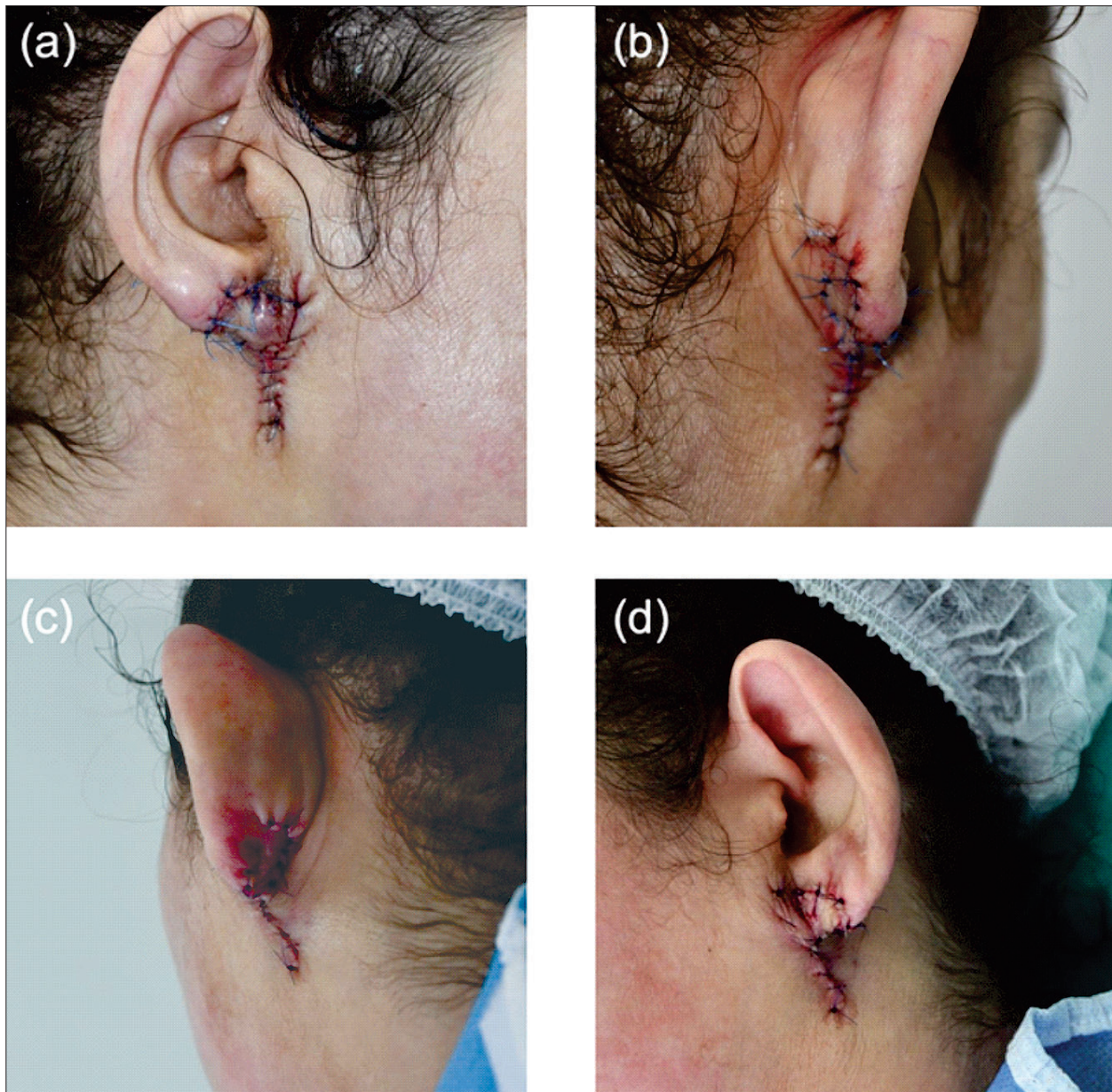


Figure 2. Earlobe reconstruction using rotational flaps demonstrating restoration of the natural contour and a satisfactory aesthetic outcome: A,B. Early postoperative views of the right earlobe. C,D. Early postoperative views of the left earlobe.

may also have increased psychosocial distress, worsened the patient's self-image and further reinforced lesion manipulation.

Hypertrophic scarring is a recognised non-infectious complication of ear piercing and occurs more frequently in the earlobe than in the helix due to the region's tendency toward abnormal

scarring [1]. It has also been reported more commonly after piercings performed during adolescence [6]. Hypertrophic scars and keloids may be difficult to distinguish clinically, and mixed post-piercing scarring patterns have also been described. Hypertrophic scars remain confined to the borders of the original injury,

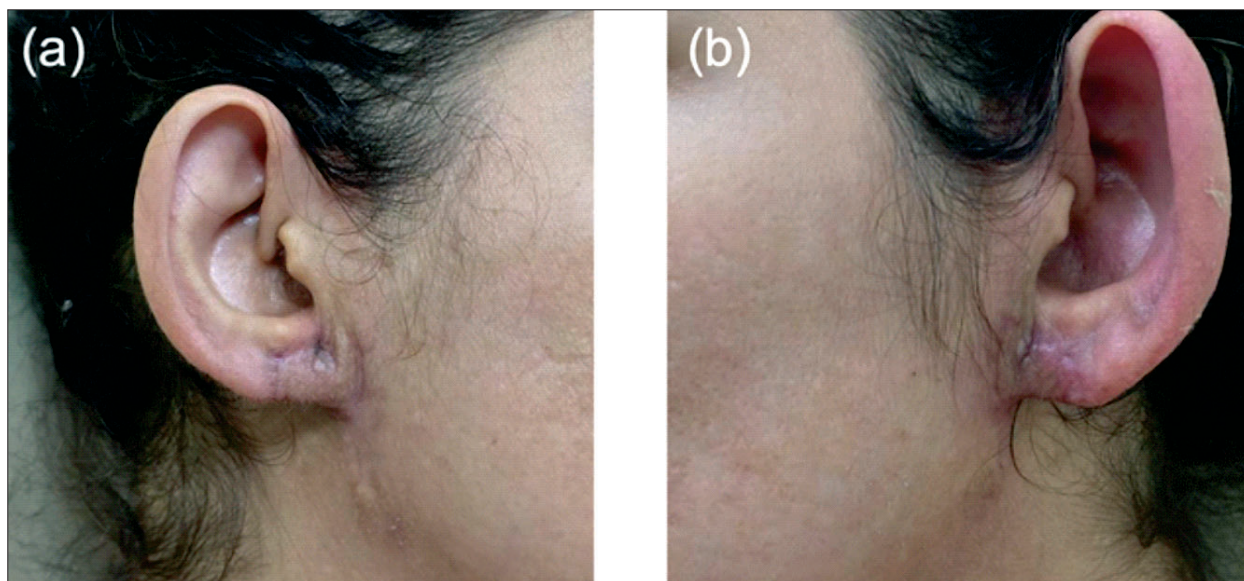


Figura 3. Control postoperator la 6 luni, evidențiind vindecarea completă, refacerea conturului lobilor auriculari și absența semnelor de recurență. A. Urechea dreaptă. B. Urechea stângă.

Figure 3. Six-month postoperative follow-up demonstrating complete healing with restoration of the earlobe contour and no evidence of recurrence. A. Right ear. B. Left ear.

whereas keloids extend beyond them. Keloid formation was therefore the main differential diagnosis in our case. However, histopathology supported hypertrophic scarring.

Severe hypertrophic and mixed hypertrophic-keloid earlobe scarring after piercing have previously been reported [7]. However, our case was distinguished by the coexistence of documented nickel allergy, clinically suspected DA, longstanding bilateral lesions and the need for reconstructive surgery. This combination highlights the importance of identifying persistent allergic inflammation and self-induced trauma before definitive reconstruction.

The choice of reconstructive technique should be guided by the extent of the defect, the availability of adjacent tissue and the need to preserve the natural earlobe contour. Combined preauricular and retroauricular flaps provide tissue with similar colour and thickness and permit single-stage reconstruction. In our patient, this approach enabled bilateral contour

restoration while minimising closure tension [8, 9]. Close postoperative follow-up was arranged to monitor for recurrent pathological scarring.

Conclusions

This case illustrates how nickel allergy, piercing-related trauma, secondary inflammation and infection, and dermatitis artefacta may interact in the development of severe bilateral earlobe scarring. Its clinical value lies in demonstrating that psychocutaneous factors should be recognised before reconstructive surgery, as ongoing self-induced trauma may affect diagnostic assessment, surgical planning, and the risk of recurrence. A multidisciplinary approach including allergy testing, histopathological evaluation, recognition of the psychocutaneous component, and tension-minimising reconstruction may improve outcomes in similarly complex post-piercing lesions.

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Conflict of interest
NONE DECLARED

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