

LETTER TO THE EDITOR

Delayed Granulomatous Reaction after Oral Piercing during Thaipusam

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Dear Editor:

Across Asia, Thaipusam is celebrated annually by devotees with the carrying of the kavadi and piercings of metal spears and hooks on the cheeks, tongue, chest or back, after entering into a trance. Complications of such piercings are extremely rare. Although thousands of devotees undergo this annual ritual, this is our first encounter of a foreign body granulomatous reaction developing at the sites of the piercings.

A 37-year-old Indian lady presented with painful, enlarging swellings, involving both the buccal mucosa, for the past two months. She recalled a history of piercing with a metal spear through her cheeks during Thaipusam, about 15 years ago (Fig. 1). *Vibhuti* or 'holy ash' was applied before and after the removal of the spear, at the sites of piercing. The patient did not complain of pain or bleeding during the piercing, and after removal of the spear. She was asymptomatic until two months ago. There was no other history of trauma to the area and the patient was otherwise well. She denied any loss of appetite or loss of weight, and there were no similar lesions elsewhere. She did not have any significant past medical or surgical history.

Examination showed two nodules about 2 × 2 cm, each on the left and right side of the cheek, and buccal mucosa,

which were firm and slightly tender on palpation (Fig. 2). An incisional biopsy was done, which showed multiple non-caseating granulomas with foreign body-type multinucleated giant cells, surrounded by numerous lymphocytes (Fig. 3). Polarized light did not show any bi-fringent material. Periodic-acid-Schiff, Ziehl-Neelsen and Grocott-gomori methenamine silver stains were negative. With that, the diagnosis of foreign body granuloma of the buccal mucosa was made. She was given intralesional triamcinolone acetate (10 mg/ml) into both nodules. The nodules regressed significantly during her subsequent review, after one injection of triamcinolone.

Body piercing has been practiced for thousands of years, mainly in certain tribal communities, or as part of religious or cultural ceremonies. In today's society, earlobe piercing is common. However, piercings at other body sites is becoming popular and fashionable, and there have been many reports of complications as a result of such piercings, which include bleeding, infection, scarring, allergic reactions, granuloma formation and sarcoid-like foreign body



Fig. 1. A photo of the patient with a metal spear pierced through her cheeks taken during Thaipusam 15 years ago.

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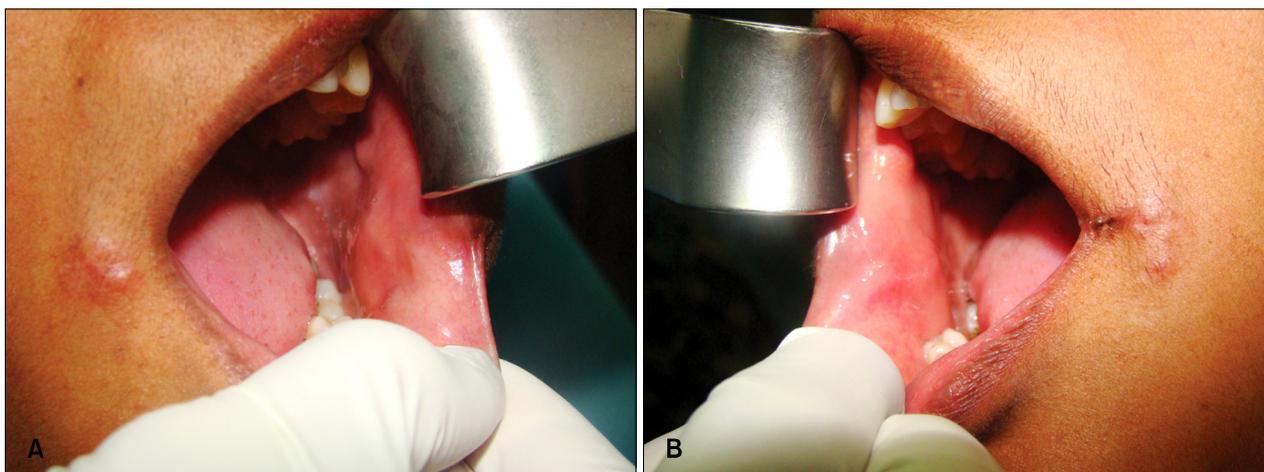


Fig. 2. (A) Nodule on the right cheek and left buccal mucosa and (B) nodule on left cheek, right buccal mucosa.

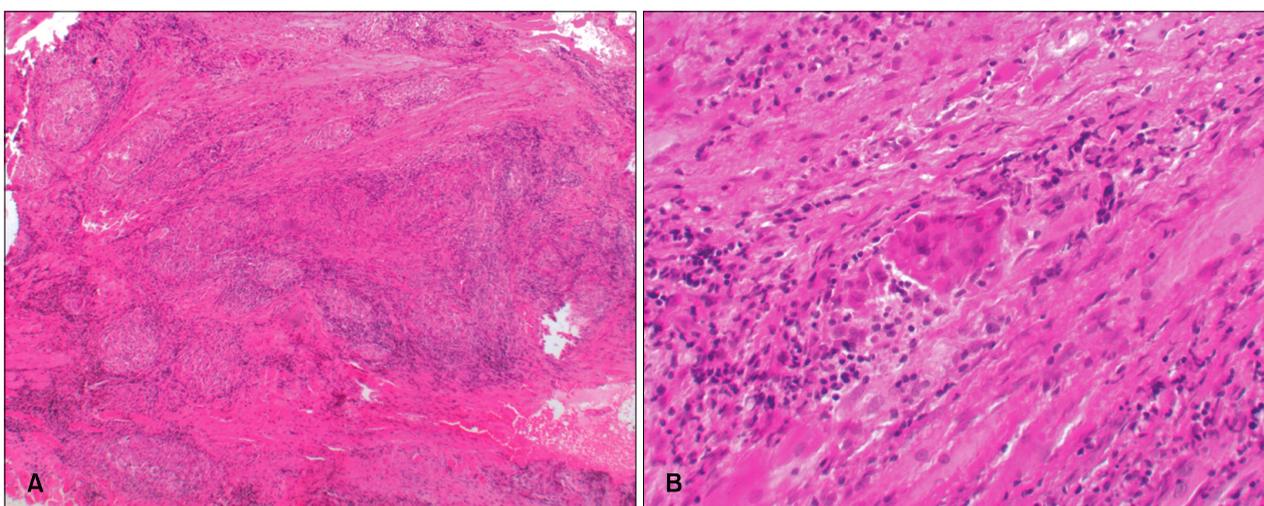


Fig. 3. (A) Non-caseating granulomas (H&E, ×10) and (B) foreign body-type giant cell (H&E stain ×400).

reaction¹. Because the skin is thicker and has more protective layers, mucous membranes seem to be more susceptible to the mechanical related injuries than the skin².

In Malaysia, Thaipusam is celebrated by the Indian community. Every year, thousands of devotees gather at an ancient temple, called 'Batu Caves', where the devotees undertake worship by the bearing of *Kavadis* (consisting of wood or steel structures placed on the shoulders). Most *kavadi* bearers pierce their cheeks with metal spears (or *vels*), after entering into a ritual trance. 'Holy ash' is then applied to the points of penetration. Although many Hindu devotees have oral and body piercings during Thaipusam, any complication, such as bleeding, infection and granulomatous reactions are rare. There have been two case reports in the literature of sarcoid-like foreign

body reaction, after *vel* piercings of the oral mucosa, during this festival in Malaysia³. One of the cases had a delayed presentation of five years. Scar sarcoidosis has also been reported in Singapore at the sites of *kavadi* insertion on the body⁴. In our patient, the nodules on the skin and buccal mucosa appeared 15 years after the initial piercing.

Many foreign materials, whether exogenous (metal salts, oils, synthetic agents, plant or animal products) or endogenous agents, may cause granulomatous tissue reactions in the skin⁵. Endogenous products, such as keratin, hair, fat and urate crystals, may be extruded or deposited in the dermis or the extracellular spaces, eliciting a tissue inflammatory response. Clinical manifestation may occur rapidly or delayed for months to years. Foreign body granulomatous reactions have also been described after acupun-

cture⁶ and decorative body tattoos⁷.

In our patient, the granulomatous reaction could have been due to the 'holy ash', which was applied onto the skin at the areas of penetration. The main ingredient of 'holy ash' is cow dung, but several other substances, such as milk and ghee are used. It is also possible that small metal shards could have been embedded into the skin and oral mucosa on penetration or removal of the spear.

Granulomatous reactions on the skin may respond to topical steroids or intralesional corticosteroid injections^{3,7}. There have also been reports of spontaneous resolution of granulomatous reaction in a cosmetic tattoo⁸. Our patient responded well after one intralesional triamcinolone injection, and has been planned for monthly injections until the lesions regress completely.

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REFERENCES

1. Koenig LM, Carnes M. Body piercing medical concerns with cutting-edge fashion. *J Gen Intern Med* 1999;14:379-385.
2. Antoszewski B, Szycha P, Fijałkowska M. Are we aware of all complications following body piercing procedures? *Int J Dermatol* 2009;48:422-425.
3. Ng KH, Siar CH, Ganesapillai T. Sarcoid-like foreign body reaction in body piercing: a report of two cases. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 1997;84:28-31.
4. Chong WS, Tan HH, Tan SH. Sarcoidosis and the skin. *Dermatol Bulletin* 2009;20:20-23.
5. Hirsh BC, Johnson WC. Pathology of granulomatous diseases. Foreign body granulomas. *Int J Dermatol* 1984;23:531-538.
6. Choudhary SV, Khairkar P, Singh A, Gupta S. Dermatitis artefacta: keloids and foreign body granuloma due to overvalued ideation of acupuncture. *Indian J Dermatol Venereol Leprol* 2009;75:606-608.
7. Tope WD, Arbiser JL, Duncan LM. Black tattoo reaction: the peacock's tale. *J Am Acad Dermatol* 1996;35:477-479.
8. Jones B, Oh C, Egan CA. Spontaneous resolution of a delayed granulomatous reaction to cosmetic tattoo. *Int J Dermatol* 2008;47:59-60.