

Tattoo-induced systemic sarcoidosis

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DESCRIPTION

A 35-year-old Japanese man was admitted to the Department of Ophthalmology with a 4-month history of abnormal vision and was diagnosed with uveitis. The patient had acquired a tattoo on the bilateral shoulders 6 months before the onset of the eye symptoms. He did not have any significant medical or family history, including sarcoidosis. The ophthalmologist suspected sarcoidosis from the findings of uveitis and consulted with the Department of Respiratory Medicine. His serum ACE (23.9 U/L, upper limit of normal; 21.4 U/L) and soluble interleukin-2 receptor (1410 U/mL, upper limit of normal; 474 U/mL) levels were elevated. Thoracic CT revealed no hilar or mediastinal lymphadenopathy; however, numerous tiny perilymphatic nodules were observed in the lungs that were consistent with the findings of pulmonary sarcoidosis. In addition, the patient noticed nodular lesions within the tattoo ([figure 1](#)) around the same time as the manifestation of eye symptoms. The pathological findings



Figure 1 A photograph of the patient's skin, showing multiple small nodules (arrowheads) within the tattoo.

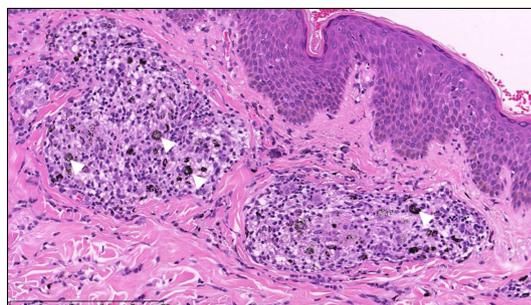


Figure 2 A photomicrograph of a punch biopsy obtained from the papule, showing non-caseating epithelioid cell granulomas with multinucleated giant cells containing numerous black and brown pigments (arrowheads) in the upper layer of dermis (H&E stain, 100 \times).

Patient's perspective

I will be glad to be of help for future healthcare.

Learning points

- ▶ The aetiology of sarcoidosis is unknown, but tattooing may be a trigger.
- ▶ When a granulomatous reaction is observed within a tattoo, systemic sarcoidosis should be kept in mind as a possible diagnosis.

of the skin eruption showed non-caseating epithelioid cell granulomas with black and brown pigments that were localised in the upper layer of dermis ([figure 2](#)). Tissue cultures for bacteria, mycobacteria and fungi were negative. Although the patient had been treated with corticosteroid eye drops for uveitis, he subsequently developed bilateral sensorineural hearing loss. At 2 weeks after the systemic administration of oral corticosteroids, the patient's hearing loss, uveitis and skin lesions improved.

The clinical course and the above findings indicated a diagnosis of systemic sarcoidosis, presenting with uveitis, skin eruptions, pulmonary lesions and sensorineural hearing loss.¹ Facial neuropathy is the most common cranial neuropathy due to sarcoidosis, followed by a hearing deficit. Colover reported that 8 of 118 neurosarcoidosis patients with central nervous system disorder showed deafness.^{2,3} The aetiology of sarcoidosis is unknown; however, it may be due to an immune reaction to a trigger, such as infection or exposure to chemicals. In the present case, we hypothesise that tattooing triggered the development of sarcoidosis. Sarcoidal skin reactions in a tattoo are rare; however, cases have been reported since 1952.⁴ When clinicians observe a granulomatous reaction within a tattoo, they should be aware of the possibility of systemic sarcoidosis.⁵

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