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Koebner Phenomenon: a Clinical Clue of Systemic Sarcoidosis

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We have a 57 year old female with past medical history significant only for hypothyroidism and generalized lymphadenopathy who presents with acute behavioral changes. She was minimally responsive on exam, nonverbal, and only weakly able to follow basic commands such as squeezing her hands. Her physical exam was notable for scarring of bilateral eyebrows (figures 1 and 2), which occurred three years ago when she had cosmetic tattooing of her eyebrows. She was accompanied by her husband who states that she does not take any medications at home other than levothyroxine. Clinical testing including neuroimaging with CT and MRI, EEG, CBC/CMP, TSH, HIV, RPR, urine drug screen, and CSF analysis were all normal. On a previous admission, patient had a full-body CT performed which showed extensive lymphadenopathy throughout the neck, bilateral hila, mesentery, and retroperitoneum. Bronchoscopy was performed at that time which did not yield any pathology. In addition, there are innumerable hypodense lesions invading the liver and spleen parenchyma, which was not worked up at this point. A biopsy of multiple liver lesions performed this admission showed noncaseating granulomas with no evidence of malignancy (figure 3). A diagnosis of neurosarcoidosis was made based on compatible clinical presentation, pathologic evidence of noncaseating granulomas, and exclusion of infection or malignancy. The patient was started on high-dose systemic corticosteroids with rapid return to baseline neurologic function. Isomorphic responses to skin trauma, such as in cosmetic tattooing in our patient, is known as Koebner phenomenon and can present as early clues of systemic sarcoidosis in the appropriate clinical context.

Figure 1 and 2 : Bilateral eyebrow hyperpigmentation with scarring and scaling plaques occurring after cosmetic eyebrow tattooing.

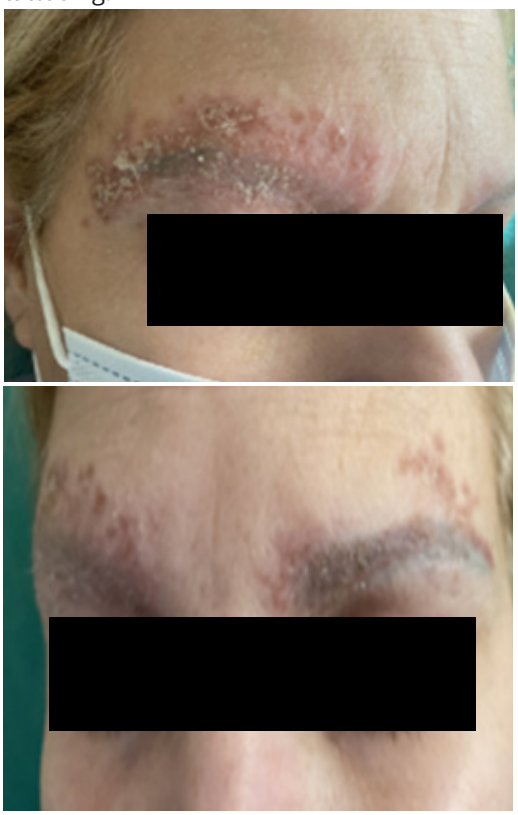

Figure 3: Noncaseating granulomas surrounded by healthy liver parenchyma