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Post-steroid panniculitis in an adult

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Abstract

Post-steroid panniculitis is an extremely rare phenomenon caused by inappropriate interruption of long-term systemic corticosteroid therapy. It usually occurs in children and is characterized by development of multiple subcutaneous nodules on the cheeks, arms, and trunk. Histologically it is a lobular type of panniculitis with characteristic needle-shaped clefts within adipocytes and numerous foreign-body giant cells. We present a case of post-steroid panniculitis occurring in a 50-year-old female after long-term administration of oral corticosteroids for Sjögren's syndrome accompanied by leukocytoclastic vasculitis and chronic polyarthritis.

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Introduction

Post-steroid panniculitis (PSP) is a rare skin condition characterized by inflammation of the subcutaneous fat occurring predominately in children treated with high doses of systemic corticosteroids after rapid withdrawal from systemic corticosteroids. Patients that develop this form of panniculitis have received corticosteroid therapy for a variety of conditions.

Case report

A 50-year-old female presented with a two-week history of subcutaneous nodules in asymmetrical distribution on the trunk, face, and extremities. The patient had been treated with long-term administration of oral corticosteroids for Sjögren's syndrome accompanied by leukocytoclastic vasculitis and chronic polyarthritis. In September 1992 the patient developed serious erosive hemorrhagic gastritis and therefore systemic corticosteroid therapy was suddenly withdrawn. Two weeks later subcutaneous nodules developed.

Clinical examination revealed randomly distributed, firm, well-demarcated, and painless subcutaneous nodules of various sizes. The nodules were distributed on the legs and arms, the buttocks, and the abdominal area (Figure 1). One nodule was also present on the face (Figure 2).

Figure 1 | Post-steroid panniculitis: subcutaneous nodules in asymmetrical distribution on the face.

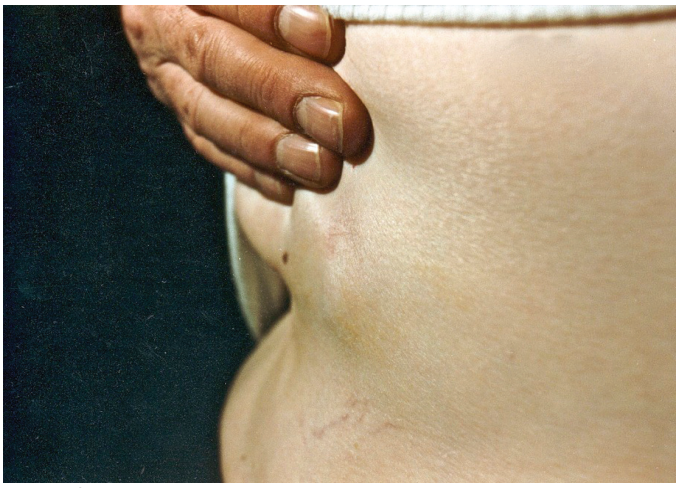

Figure 2 | Post-steroid panniculitis: subcutaneous nodules on the trunk.

Histopathologic examination revealed a patchy, granulomatous infiltrate in the subcutaneous fat with many histiocytes and bizarre giant cells containing fatty acid crystals in their cytoplasm. There were also zones of fat necrosis with fibrinoid degeneration present (Figure 3, Figure 4). The histopathologic features were identical to those found in post-steroid panniculitis in children and patients with subcutaneous fat necrosis of the newborn.

Based on the patient's history, clinical presentation, and histopathologic examination, we concluded with a diagnosis of PSP. The nodules subsided completely without any treatment a few weeks later.

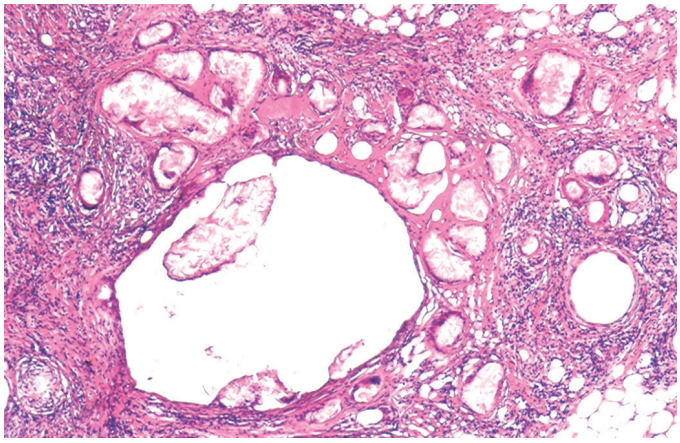

Figure 3 | Post-steroid panniculitis: patchy, granulomatous infiltrate in the subcutaneous fat with many histiocytes and bizarre giant cells (HE 2 × 40).

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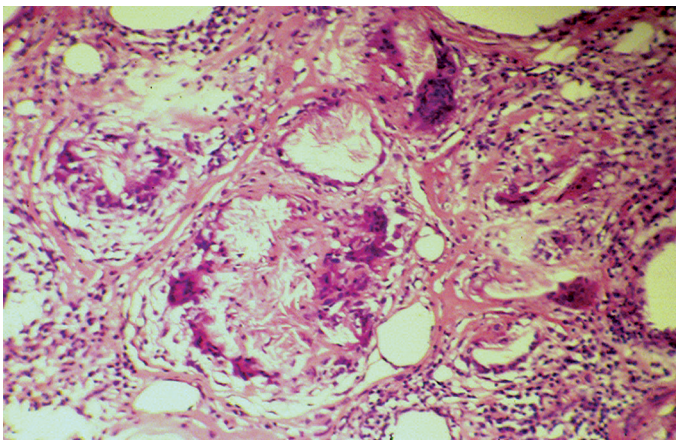

Figure 4 | Post-steroid panniculitis: granulomatous infiltrate with many histiocytes and bizarre giant cells containing fatty acid crystals in their cytoplasm; there are also zones of fat necrosis with fibrinoid degeneration (HE 2 × 20).

Discussion

First reported by Smith and Good in 1956, PSP is a rare complication of systemic corticosteroid therapy (1). Altogether approximately 22 patients have been described so far, mostly children receiving long-term corticosteroid therapy for treatment of a variety of diseases, including rheumatic fever, nephrotic syndrome, leukemia, brain-stem glioma, and hepatic encephalopathy (1–10). Only three cases have been reported in adults (11–13).

PSP occurs after rapid withdrawal of systemic corticosteroids. It may also occur if the dose of prednisone is reduced but not entirely suppressed (3). The precise mechanism by which panniculitis arises is not known.

Clinically, PSP is characterized by multiple, erythematous, subcutaneous nodules or indurated plaques classically appearing on the cheeks, but also sometimes involving the arms, trunk, and jawline (5, 8, 11). Individual lesions range from 0.5 to 6.0 cm in diameter and may be pruritic (4, 13). Lesions appear 1 to 35 days after rapid tapering or complete cessation of systemic steroid therapy (9).

Histopathologically, PSP presents as lobular panniculitis with mixed infiltrate of lymphocytes, foamy histiocytes, neutrophils, and giant cells. Vasculitis is not seen. Needle-shaped clefts within adipocytes are characteristic and are believed to represent crystallized, saturated fatty acids that dissolve with tissue processing. Multinucleated giant cells and histiocytes are often present directly adjacent to the adipocytes involved (11, 14).

In most cases, spontaneous regression is observed after a few weeks or months. Occasionally systemic corticosteroid treatment and subsequent tapering of the dose is needed.

Conclusion

We agree with a few predecessors and suggest that post-steroid panniculitis is not confined to childhood but also occurs in adulthood.

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