

Minocycline-induced Cutaneous Polyarteritis Nodosa

BACKGROUND

Minocycline is commonly used for the treatment of acne vulgaris, infection, and rheumatoid arthritis. Commonly known side effects include tissue hyperpigmentation, serious skin and hypersensitivity reactions, hepatotoxicity, teratogenicity, pseudomembranous colitis, pseudotumor cerebri, superinfections and drug resistant bacteria. ¹

Rare side effects of minocycline include autoimmune disorders. We report the eleventh case of a biopsy proven minocycline-induced cutaneous polyarteritis nodosa (PAN).

Diagnostic guidelines for minocycline-induced cutaneous PAN were established in 2005. Patients should fulfill 6 of 7 criteria: 1) minocycline use for >12 months, 2) skin manifestations including livedo reticularis or subcutaneous nodules, 3) arthritis or myalgias or neuropathy in the distribution of the rash, 4) no organ involvement, 5) skin biopsy showing necrotizing vasculitis of small or medium size vessels, 6) positive perinuclear antineutrophilic cytoplasmic antibodies, and 7) improvement after discontinuing minocycline. ²

CASE

18 year old female presented with painful skin lesion on left shin, polyarthralgia, myalgia, paraesthesia, and swelling in both ankles. Medical history includes acne and asthma. Medications included minocycline for 2.5 years, ranitidine, OCPs, and iron. Initial physical examination revealed mild synovitis in both ankles and erythematous raised papule in distant left shin.

On follow-up, this progressed to multiple ill demarcated, non-indurated, patches on both lower extremities (Figure 1) with ulcer formation on Right shin (Figure 2).



Figure 1: ill demarcated, reticulated patches consistent with livedo reticularis



Figure 2: Ulcer formation

DIFFERENTIAL DIAGNOSIS

- Erythema Nodosum
- Sarcoidosis
- Connective tissue disease
- Rheumatic fever
- Infections such as lyme disease or parvovirus
- Minocycline induced systemic lupus erythematosus
- Minocycline induced hepatitis, lymphoma, and other vasculitis.

WORKUP

Abnormal lab studies: positive ANA 1:640 nucleolar pattern, elevated IgG on IEP, elevated ESR, and elevated CRP.

Remainder of workup (baseline labs, UA, Lyme Disease titers, Parvo B19, Monospot test, Hepatitis panel, skin cultures, Uric acid, RF, autoantibodies (Anti-Streptolysin, anti-SSB, anti-RNP, anti-Sm, anti-dsDNA, anti-Scl70, CMV, HTLV1/2), CXR were normal.

Skin biopsy revealed neutrophilic inflammation of medium size vessel compatible with PAN (Figure 3).

Clinical Course

Patient treated with intermittent short courses of prednisone. Minocycline was discontinued, and patient was clinically monitored until resolution of symptoms.

CONCLUSIONS

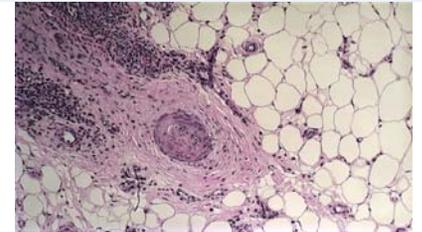


Figure 3: Histology showed medium sized vessel necrosis with neutrophilic inflammation.

Cutaneous PAN is a necrotizing vasculitis of small and medium size arteries within the skin, without involvement of the internal organs.

PAN is usually self-limited, once minocycline is discontinued. The syndrome reoccurs on repeat exposure to minocycline. Previous reports have shown it's beneficial to start short courses of Prednisone to reduce duration of symptoms.

Awareness of this rare adverse effect of this commonly used antibiotic is extremely important because early recognition and discontinuation results in a favorable outcome.

References

1. Daily Med. <http://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?id=61801>
2. Culver B, Itkin A, Pischel K. Case report and review of minocycline-induced cutaneous polyarteritis nodosa. *Arthritis Rheum* 2005; 53: 468-70.