

Minocycline – Induced Autoimmune Syndromes: An Overview

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**Objective: To increase awareness of
Minocycline – induced autoimmune
syndromes.**

**Methods: Review of relevant
publications from the American and
European literature.**

Results:

Four minocycline – induced syndromes have been described in 82 patients:

- 1 serum sickness,
- 2 drug – induced lupus
- 3 autoimmune hepatitis
- 4 vasculitis

Aside from sporadic cases of serum sickness, all other syndromes occurred in patients treated for acne.

Drug – induced lupus and hepatitis were by far the most common events (66 cases). Except for serum sickness, which presented shortly (mean 16 days) after minocycline, the autoimmune syndromes manifested after protracted use (mean 25.3 months). As expected, the patients with acne were young (mean, 19.7 years).

The most frequent symptoms were arthralgia, followed by arthritis, fever, and rash (73, 45, 38, and 29 patients, respectively).

Serologically

Antinuclear antibodies were the most common finding (63 positive of 68 tests); Perinuclear anti – neutrophilic cytoplasmic antibodies (pANCA), when assayed, were similarly frequent (20 of 24 tests).

Surprisingly, anti – histone antibodies were uncommon, even among patients with drug – induced lupus (4 of 31 tests).

The clinical and serological features of the separate syndromes may overlap.

The diagnostic value of pANCA, as well as its possible role in minocycline – induced autoimmunity, are discussed.

Conclusions:

Minocycline has the potential to evoke a variety of clinical and serological autoimmune expressions.

The number of published reports may underestimate the frequency of this condition, which should be suspected and investigated in young patients with autoimmune manifestations.

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- Twenty-seven children were diagnosed with MIA at a single pediatric rheumatology practice. The mean age at onset was 16.5 ± 1.39 years.
- The mean duration of minocycline use before diagnosis was 13.0 ± 10.8 months. All patients presented with constitutional symptoms. Twenty-two had polyarthralgia, and 17 had polyarthritis, mostly affecting hands and feet.
- On the basis of disease duration after discontinuation of minocycline, we divided subjects into 3 categories: transient, intermediate, and chronic.
- Seven patients had development of chronic autoimmune disease that was still active at last follow-up, a mean of 31.6 ± 13.0 (13-48) months after onset.
- Six patients followed an intermediate course, with resolution of symptoms within 12 months, and 14 patients had symptoms that resolved rapidly on discontinuation of minocycline.
- All patients with a chronic course had evidence of arthritis at presentation.