

Isotretinoin, Trimethylaminuria and the Internet

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Letter to Editor

Dear Editor,

Trimethylaminuria (TMAU), also called fish odor syndrome, is an inborn error of metabolism due to decreased activity of flavin-containing monooxygenase 3 (FMO3) [1]. The characteristic fish odor results from excessive excretion of trimethylamine in urine, breath, sweat, and reproductive fluids. Although no physical symptoms are described, affected individuals suffer an unpleasant odor, resulting in serious social and psychological problems [1, 2].

Although trimethylaminuria can be a congenital condition, acquired trimethylaminuria is described resulting from liver injuries, mainly related to viral hepatitis. The infection may permanently affect the expression of FMO3 [1]. Scientific knowledge about acquired TMAU is scarce; it is, however, an irreversible condition with serious consequences.

www.guiametabolica.org - a reference website for patients affected by inborn errors of metabolism [3], offers a community of those affected by TMAU, and it is one of the most visited. Interesting clinical data are shared at the site by the patients in an open manner.

We want to raise awareness about the experiences of three users of Guía Metabólica suffering fish odor syndrome who underwent treatment with isotretinoin.

Oral isotretinoin, a systemic retinoid, is often prescribed for the treatment of resistant acne [4]. Its secondary effects are well known, particularly those related to bowel disease and the potentially teratogenic properties in pregnant women. Moreover, patients under treatment should undergo periodical transaminase analysis. In fact, transaminase increases are described in 15-20% of patients, pinpointing the potentially hepatotoxic effects of isotretinoin. However, as far as we know, in the metabolism of isotretinoin there is no participation by FMO3.

www.guiametabolica.org users suffering fish odor were treated with retinoic acid for 1 to 4 years with no other relevant side effects. None of them underwent urinalysis to measure trimethylamine, and none of their attending dermatologists suspected an acquired trimethylaminuria. Moreover, doing a search through other open support groups on the Internet we

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found at least two other adults reporting sustained fish odor after isotretinoin treatment.

Acquired trimethylaminuria is not among the described side effects for isotretinoin. An interindividual difference among treated patients indicates that only some of them are predisposed to developing fish odor as a permanent consequence. Functional FMO3 polymorphisms may have a role in transient or intermittent forms [5]. They may also explain this individual susceptibility.

The possibility of an acquired trimethylaminuria should be borne in mind by dermatologists as this possibility may change the life of their patients forever.

Our observation highlights the relevance of social networks and online support groups that serve to provide access to personal experiences that may not be voiced in the medical interview. These new hypothesis need to be scientifically examined because of their clinical relevance

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