Letters to the Editor

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Decreased Isotretinoin Efficacy during Acute Alcohol Intake

To the editor

Isotretinoin has shown highly beneficial effects in severe acne with a wider spectrum of toxicities but with relatively few drug interactions [1]. We describe herein a curious observation on therapeutic efficacy as well as secondary effects of isotretinoin in a patient with a history of chronic alcoholism during two episodes of acute alcohol intake.

Case Report. A 32-year-old man, a sherry taster, presented with an 8-year history of acne conglobata in January 1987. His past medical history was remarkable for chronic alcoholism. However, he had ceased alcohol drinking for 3 years except for the occasional intake in spring and autumn when he had to drink alcohol during a few days because of his job. Laboratory studies only disclosed the following abnormal values: serum glutamicoxaloacetic transaminase 50 units/l (normal: 4–40 units/l) and serum γ-glutamyl transferase 98 units/l (normal: 7–50 units/l). Isotretinoin treatment (60 mg/day) was begun in February 1987. Improvement of skin lesions and typical mucocutaneous side effects of isotretinoin were observed within the first month. However, during a 2-week period in April 1987, when he had been drinking for sherry tasting, a relapse of cutaneous lesions and the disappearance of mucocutaneous dryness were observed. When he then left alcohol ingestion, both control of the relapse and reappearance of mucocutaneous side effects were observed. He continued on this treatment for 4 months. In September 1988 a second course of isotretinoin was administered (40 mg/day) because of worsening of his acne. Surprisingly we observed the same features as in April 1987 when he returned to drink sherry in November: mucocutaneous dryness ceased, and inflammatory lesions reappeared on his back. Again this was controlled when he stopped drinking.

Discussion. Drug interactions involving isotretinoin are rare. Concomitant use of tetracycline, minocycline and vitamin A should be avoided because of the risk of pseudotumor cerebri [1, 2]. Ethanol has multiple interactions with other drugs [3–5], although we are not aware of prior reports on interactions between ethanol and isotretinoin, except a disulfiram-like reaction [1].

90–98% of ethanol absorbed by the gastrointestinal tract is oxidized in the liver by three metabolic pathways: the alcohol dehydrogenase, hepatic microsome and catalase pathways [3]. An acute dose of ethanol inhibits the metabolism of several drugs by competition for the microsomal pathway [3, 4], as barbiturates [4], reserpine, methyldopa and clonidine [5]. Chronic alcohol consumption enhances drug metabolism, often because of the induction of liver microsomal enzymes [3–5]. This reduces the efficacy of some drugs, like anticoagulants, hypoglycemic agents and anticonvulsants [3, 4]. Isotretinoin has a complex metabolism, as 4-oxo-isotretinoin is its major metabolite and a glucuronized compound is excreted in bile and urine [6]. In our case, temporary acute alcohol consumption in a patient with a past history of chronic alcohol ingestion might have induced hepatic microsomal enzymes transitorily, thus increasing retinoid biotransformation and both decreasing therapeutic efficacy and undesirable secondary effects. Other possible mechanisms might be implicated. Congeners, a variety of nonalcoholic components contained in alcoholic beverages, may alter the action and metabolism of a number of drugs [4]. Intestinal abnormalities induced by acute alcohol intake [7] might be responsible for a decreased absorption of isotretinoin. Finally, the compliance during the alcohol intake period cannot be proved because blood measurements of isotretinoin and its metabolites were not performed. Further studies are called for to prove an interaction of alcohol with isotretinoin.

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