

Article type: Letter

Title: Could drinking tea cure acne?

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Courtney is a student interested in dermatology who dreams of becoming an expert on acne treatments.

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Summary of article:

This letter explores the potential of spearmint tea as a treatment for acne, with one case report, information on spearmint in the media, and how it has been studied scientifically.

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The use of spearmint tea for acne is a topic heavily featured on internet forums and in popular magazines [1,2]. Spearmint, or *Mentha spicata*, is rooted in Europe and Asia, as it grows best in temperate climates. Spearmint is commonly used to flavor foods and gum and as an aromatic oil. Some examples of its reported medical benefits include its use in bacterial and fungal infections, bronchitis, halitosis, and sinusitis. Side effects include contact dermatitis, and in animal studies, impaired absorption of iron supplements as well as renal and liver toxicity. In addition, animal studies found that spearmint may cause sedative and antidepressant effects [3], along with spearmint extract's ability to act as an anti-inflammatory, analgesic, and antipyretic in mice [4].

I would like to report the case of a 24 year old Caucasian woman with a six year history of severe facial nodulocystic acne. Her past medical history includes a five year history of severe migraines with auras, well controlled with nortriptyline. Family history was significant for maternal nodulocystic acne. The patient's dermatologists prescribed intermittent oral tetracycline orally, and topical benzoyl peroxide and clindamycin. This helped eliminate most open and closed comedones, however, cystic lesions were only slightly improved. Intralesional corticosteroids intermittently helped reduce larger cystic lesions persisting for longer periods. At 22 years old, she was treated with oral isotretinoin, which completely cleared her acne after six months of treatment. Due to side effects, including severe mood changes, she had to discontinue isotretinoin. This resulted in the return of her acne back to baseline. The patient continued the regimen of daily topical benzoyl peroxide and clindamycin. The addition of topical metronidazole and salicylic acid did not help. Oral hormonal contraceptives were contraindicated due to her history of migraines with auras. She continued to have nodulocystic lesions. Then at 24 years old, as she had read about testimonials in the media, the patient made the decision to start drinking two cups of spearmint tea daily, in addition to continuing her usual routine of benzoyl peroxide and clindamycin. After six months of drinking spearmint tea, the patient subjectively stated she believed her acne had decreased by 50%, in both the size and number of nodulocystic lesions on her face. This case is interesting, as there is no scientific evidence to support spearmint's use in acne treatment.

Although there is no evidence in the literature on spearmint's role in acne treatment, there are two studies on its effect on androgen levels, a key player in the development and persistence of acne. The first, a randomized controlled trial, found that women with polycystic ovarian syndrome (PCOS) and hirsutism supplemented with spearmint tea had significant decreases in free and total testosterone, increases in LH and FSH, and decreased subjective patient ratings of hirsutism. Conversely, this study found no difference in objective hirsutism ratings [5]. The second study looked at spearmint tea supplementation in females with hirsutism as well. After spearmint consumption, there were significant decreases in free testosterone, while LH, FSH, and estradiol increased [6]. There were no reported side effects in either study. Although spearmint was compared to a placebo, there are no studies on spearmint in comparison to current antiandrogenic medications. Spearmint might be able to treat acne due to its possible antiandrogenic properties in the studies above.

Antiandrogens are commonly used in acne treatment, as androgens play a significant role in sebum production, a major contributor to acne breakouts [7]. Androgens, with testosterone and

the more potent, dihydrotestosterone (DHT), increase sebum secretion. Antiandrogen agents include spironolactone, cyproterone acetate, flutamide, gonadotropin-releasing hormone agonists, insulin sensitizers, and combined oral contraceptives.

Spearmint may have a role in the treatment of acne through an anti-androgen effect, although there is little scientific evidence. Prospective research needs to be conducted to evaluate the efficacy of spearmint in acne treatment as an adjuvant with standard treatment.

Conflict of interest declaration: None

Informed consent was obtained from the patient for publication.

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References

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