

BRIEF ARTICLE

Erythematotelangiectatic Rosacea: A Patient Journey Case Report

Shannon Moran, MD¹, Sarah L. Taylor, MD, MPH^{1,2}, Steven R. Feldman, MD, PhD^{1,2,3,4}

¹ Center for Dermatology Research, Department of Dermatology, Wake Forest University School of Medicine, Winston-Salem, North Carolina.

² Department of Dermatology, Wake Forest University School of Medicine, Winston-Salem, North Carolina.

³ Department of Pathology, Wake Forest University School of Medicine, Winston-Salem, North Carolina.

⁴ Department of Social Sciences & Health Policy, Wake Forest University School of Medicine, Winston-Salem, North Carolina

ABSTRACT

Introduction: The flushing of erythematotelangiectatic rosacea (ETR) can be challenging to treat and a source of psychosocial impairment. Topical vasoconstrictors are currently the only FDA-approved medications, and patients may experience rebound erythema with use.

Case: We present a patient with early onset erythematotelangiectatic rosacea with intense flushing who failed topical vasoconstrictors but was successfully treated with nontraditional therapies, including aspirin, a botanical skin care regimen, and topical pimecrolimus. The patient also experienced cyclic flushing related to tricyclic combined oral contraceptive pill, which abated when switching to a monocyclic version.

Conclusion: For patients with flushing who fail vasoconstrictor therapy, alternative treatments may be valuable but are not yet well characterized. Aspirin therapy is described for niacin-induced flushing but is not widely recognized as a rosacea remedy. Hormonal fluctuations may be an underrecognized contributor to rosacea. Botanical skin care products may be of value to patients combatting redness; thus, more studies would be necessary to examine if the effectiveness is generalizable to other patients with flushing. Mainstays of ETR management are sunscreen, trigger avoidance, topical vasoconstrictors for patients who can tolerate, and visible light treatments (intense pulsed light and pulse dye laser).

INTRODUCTION

Rosacea is a common dermatologic condition, affecting roughly 5.5% of the population, and is categorized into four subtypes: erythematotelangiectatic,

papulopustular, phymatous, and ocular.^{1,2}

Erythematotelangiectatic rosacea (ETR) is characterized by transient (flushing) and/or persistent erythema and/or telangiectasias, typically affecting the central face.¹

Telangiectasias respond well to treatment with intense pulsed light (IPL) and pulsed dye laser (PDL).¹ Topical brimonidine and oxymetazoline, which act as local cutaneous vasoconstrictors, are effective at abating flushing episodes, and are the only FDA approved treatment for flushing in ETR.³ However, some patients experience rebound erythema.³ For patients who do not respond or have rebound effects, treatment of flushing is challenging. For many patients, the symptoms cause embarrassment and self-

July 2025 Volume 9 Issue 4

consciousness, negatively affecting social and professional interactions, and thus warrant further investigations to address this concern.⁴ We present a case of successful treatment of ETR that had failed standard measures.

CASE REPORT

An otherwise healthy 22-year-old female, with Fitzpatrick phototype II experienced daily intense flushing and edema of the cheeks, associated with specific triggers, as

well as episodes seemingly unprovoked. At times, the erythema was in an irregular pattern (Figure 1), and other times she noted redness diffusely over the cheeks (Figure 2). She did not use sunscreen at that time, and was using OTC face wash and moisturizer, but had not tried anything specifically for flushing. She was embarrassed by her symptoms, and it greatly affected her psychosocially. On examination of the skin, she had minimal telangiectasias over the medial cheeks and nose, and moderate erythema over the cheeks down to the jawline, but no papules or pustules. She was



Figure 1. Flushing episode with irregular pattern of erythema on perimeters of bilateral cheeks, extending down to the jawline, with sparing of the internal portion of the cheek. Minimal edema of the medial cheeks.



Figure 2. Generalized erythema over the cheeks down to the jaw line

diagnosed with ETR. Early on in her course, she was advised to take aspirin 81 mg daily to prevent flushing, and trialed both brimonidine and oxymetazoline, but discontinued the topical vasoconstrictors because of severe rebound flushing. The patient began using the following combination of products from online skincare brand, Zenmed, all of which target rosacea: Ultra Calming Gel Mask, Anti-Redness Mask, Support Serum, Redness Relief Moisturizer, and Omegaceramide+ Recovery Moisturizer. With the use of these products, along with daily baby aspirin, she experienced remission of daily flushing symptoms. The patient has noted that using either only aspirin or only Zenmed products was not as effective as using them in combination. A few years later, the patient incorporated topical pimecrolimus 1% twice daily over affected areas, daily sunscreen, omega-3 fatty acid

supplementation (1660 mg/day), and stricter avoidance of triggers to improve her now much less frequent episodes.

However, at age 29, the patient had her progestin-only IUD removed (placed at age 25) and began taking a tricyclic combined oral contraceptive pill (COCP) (norgestimate, ethinyl estradiol). When starting the new pill, she began experiencing mild to severe cyclic flushing during her menstrual cycle on days 4-7 and days 12-17, which repeated monthly throughout the 2-year duration of her tricyclic COCP use, despite remaining on her previously successful rosacea regimen. The patient was switched to monocyclic COCP (norgestimate, ethinyl estradiol) and instructed to skip over the placebo week, so that she was treated with the same dose of hormones throughout the cycle. On this new regimen, the patient experienced immediate

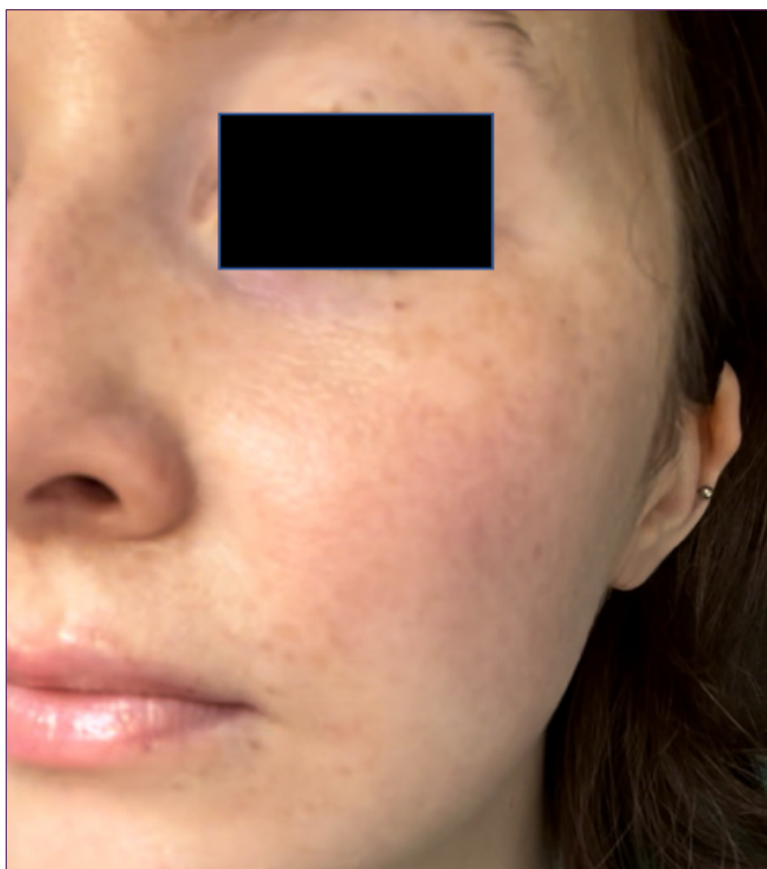


Figure 3. Resolution of flushing

resolution of cyclic flushing (**Figure 3**). Currently, the patient's flushing episodes are predominantly after intense heat exposure or consumption of alcohol, and very rarely otherwise. She reports satisfaction with results and improvement in psychosocial aspects.

DISCUSSION

Cutaneous rosacea predominantly affects patients of Northern and Western European descent ages 45-60, though it can less commonly affect patients in the mid to late second decade.^{1,2} Our patient, with fair skin and of Northern European descent, developed onset of rosacea at an early age (22 years old), but her symptoms improved with age and medical and lifestyle interventions.

The worsening of rosacea symptoms in ages ≥ 45 , aligned with (peri)menopause, suggests that hormonal changes may play a role in some patients' symptoms.² Our patient experienced hormonal-associated flushing episodes, evidenced by worsening symptoms on tricyclic COCP and improvement on monocyclic COCP. As the progesterin levels fluctuate with tricyclic COCP, the patient's response may indicate that changes in progesterone levels specifically lower the flushing threshold. A patient who experienced flushing associated with her progesterin-only IUD was reported, though our patient did not experience this while on her progesterin IUD.⁵ Presentation of rosacea features was increased in patients on unspecified menopausal hormone therapy and oral contraceptives, and symptoms improved using oral progesterin-only pills; limitations of these studies are lack of distinction between rosacea subtypes or flushing status, but regardless these

investigations suggest a hormonal component.^{2,6}

Another factor that may warrant further investigation is the role of aspirin use in control of flushing. Aspirin is effective at decreasing flushing associated with other conditions (mastocytosis, niacin-induced, alcohol-induced, and delayed-release dimethyl fumarate-induced).^{7,8,9} One murine study reported improvement in clinical signs, as well as pathophysiology of rosacea on a molecular level, by mitigating skin inflammation and angiogenesis.¹⁰ Studying this effect in humans would be necessary to determine if patients may benefit not only from symptomatic treatment, but also from alteration in the course of disease by taking aspirin. However, the effect of aspirin on ETR flushing is not well characterized, though a literature search revealed two publications briefly mentioning off-label use.^{4,7}

The patient reported proprietary topical products for redness made a dramatic improvement in symptoms. The products' listed ingredients such as licorice root, willow bark extract, aloe vera extract, ceramides, various oils, among others may support the skin barrier.¹¹ Studies on botanical products support licorice and aloe vera as effective treatments for erythema and flushing.¹² There was no report of clinical trials found for the patient's products, and studies on these products to establish their contents and efficacy would provide some greater assurance of their value.

General recommendations for ETR are gentle skincare, sunscreen, trigger avoidance (for example, alcohol, heat, cold, UV, wind, spicy foods), topical vasoconstrictors for patients who can tolerate, and IPL and PDL to effectively reduce telangiectasias contributing to

background erythema.¹ Chemical peels, such as mandelic acid, may reduce facial redness as well.¹³ Every case is different, and an experienced dermatologist can tailor the treatment plan to the patient's individual needs and concerns.

Conflict of Interest Disclosures: SM: None, ST: None, SF: Steven Feldman has received research, speaking and/or consulting support from a variety of companies including Galderma, GSK/Stiefel, Almirall, Leo Pharma, Boehringer Ingelheim, Mylan, Celgene, Pfizer, Valeant, Abbvie, Samsung, Janssen, Lilly, Menlo, Merck, Novartis, Regeneron, Sanofi, Novan, Qurient, National Biological Corporation, Caremark, Advance Medical, Sun Pharma, Suncare Research, Informa, UpToDate and National Psoriasis Foundation. He is founder and majority owner of www.DrScore.com and founder and part owner of Causa Research, a company dedicated to enhancing patients' adherence to treatment. The other authors have no conflicts to disclose.

Funding: None

Corresponding Author:

Shannon Moran
4618 Country Club Road, Winston-Salem, NC 27104
Phone: 201-787-6076
Email: shannkmoran@gmail.com

References:

1. R1. Culp B, Scheinfeld N. Rosacea: a review. *P T*. 2009 Jan;34(1):38-45.
2. Yang F, Wang L, Shucheng H, Jiang X. Differences in clinical characteristics of rosacea across age groups: A retrospective study of 840 female patients. *J Cosmet Dermatol*. 2023 Mar;22(3):949-957. doi:10.1111/jocd.15470.
3. Okwundu N, Cline A, Feldman SR. Difference in vasoconstrictors: oxymetazoline vs. brimonidine. *J Dermatolog Treat*. 2021 Mar;32(2):137-143. doi: 10.1080/09546634.2019.1639606.
4. Rainer BM, Kang S, Chien AL. Rosacea: Epidemiology, pathogenesis, and treatment. *Dermatoendocrinol*. 2017 Oct 4;9(1). doi:10.1080/19381980.2017.1361574.
5. Choudry K, Humphreys F, Menage J. Rosacea in association with the progesterone-releasing intrauterine contraceptive device. *Clin Exp Dermatol*. 2001 Jan;26(1):102. doi:10.1046/j.1365-2230.2001.00770-3.x.
6. Wu WH, Geng H, Cho E, Eliassen AH, Drucker AM, Li TY, Qureshi AA, Li WQ. Reproductive and hormonal factors and risk of incident rosacea among US White women. *J Am Acad Dermatol*. 2022 Jul;87(1):138-140. doi:10.1016/j.jaad.2021.06.865.
7. Bubna AK. Aspirin in dermatology: Revisited. *Indian Dermatol Online J*. 2015 Nov-Dec;6(6):428-35. doi:10.4103/2229-5178.169731.
8. O'Gorman J, Russell HK, Li J, Phillips G, Kurukulasuriya NC, Viglietta V. Effect of Aspirin Pretreatment or Slow Dose Titration on Flushing and Gastrointestinal Events in Healthy Volunteers Receiving Delayed-release Dimethyl Fumarate. *Clin Ther*. 2015 Jul 1;37(7):1402-1419.e5. doi:10.1016/j.clinthera.2015.03.028.
9. Truitt EB Jr, Gaynor CR, Mehl DL. Aspirin attenuation of alcohol-induced flushing and intoxication in Oriental and Occidental subjects. *Alcohol Alcohol Suppl*. 1987;1:595-9.
10. Deng Z, Xu S, Peng Q, Sha K, Xiao W, Liu T, Zhang Y, Wang B, Xie H, Chen M, Li J. Aspirin alleviates skin inflammation and angiogenesis in rosacea. *Int Immunopharmacol*. 2021 Jun;95:107558. doi:10.1016/j.intimp.2021.107558.
11. Zedmed.com. <https://www.zedmed.com>. Accessed June 25, 2024.
12. Semenescu I, Similie D, Diaconeasa Z, Danciu C. Recent Advances in the Management of Rosacea through Natural Compounds. *Pharmaceuticals (Basel)*. 2024 Feb 6;17(2):212. doi:10.3390/ph17020212.
13. Gentili G, Perugini P, Bugliaro S, D'Antonio C. Efficacy and safety of a new peeling formulated with a pool of PHAs for the treatment of all skin types, even sensitive. *J Cosmet Dermatol*. 2023 Feb;22(2):517-528. doi: 10.1111/jocd.15215.