

Spiro­nolactone for Adult Female Acne



Many cases of acne are hormonal in nature, meaning that they occur in adolescent girls and women and are aggravated by hormonal fluctuations such as those that occur during the menstrual cycle or in the setting of underlying hormonal imbalances as seen in polycystic ovary syndrome. For these patients, antihormonal therapy such as spironolactone is a valid and efficacious option. Herein, initiation and utilization of this medication is reviewed.

Adam J. Friedman, MD

What should you do during the first visit for a patient you may start on spironolactone?

Some women will come in asking about spironolactone for acne, so it is important to identify potential candidates for antihormonal therapy:

- Women with acne flares that cycle with menstruation
- Women with adult-onset acne or persistent-recurrent acne past teenaged years, even in the absence of clinical or laboratory signs of hyperandrogenism
- Women on oral contraceptives (OCs) who exhibit moderate to severe acne, especially with a hormonal pattern clinically
- Women not responding to conventional therapy and not wanting to use oral isotretinoin or who are not candidates for oral isotretinoin

Evaluation of these women with acne for the possibility of hormonal imbalance may be necessary, with the 2 most common causes of hyperandrogenism being polycystic ovary syndrome and congenital adrenal hyperplasia. The presence of alopecia, hirsutism, acanthosis nigricans, or other signs of androgen excess, in combination with dysmenorrhea or amenorrhea, may be an indication that the patient has an underlying medical condition that needs to be addressed. Blood tests including testosterone, dehydroepiandrosterone, follicle-stimulating hormone, and luteinizing hormone would be appropriate screening tests and should be performed during the menstrual period or week prior; the patient should not be on an OC or have been on one within the last 6 weeks of testing.

Prior to initiating therapy with spironolactone, it is important to establish that there is no history of renal dysfunction; that the patient does not utilize salt substitutes, which may contain potassium in place of sodium; and that the patient is not taking potassium supplements, other potassium-sparing diuretics (ie, amiloride, triamterene), angiotensin-converting enzyme inhibitors, or angiotensin II receptor blockers.

Of note, the patient should not be currently or actively trying to become pregnant. Even though it has a category C rating, there is substantial theoretical risk for teratogenicity, especially in a male fetus (ie, feminization of a male fetus). However, there are no reports linking spironolactone with human congenital defects, and no well-controlled, prospective studies evaluating spironolactone exposure in pregnant women.

Dr. Friedman is Associate Professor of Dermatology, Residency Program Director, and Director of Translational Research at the George Washington School of Medicine and Health Sciences, Washington, DC.

Dr. Friedman is a consultant for Encore Pharmaceuticals; Galderma Laboratories, LP; Johnson & Johnson Consumer Inc; Liquidia Technologies; and Pfizer Inc. He also is on the advisory board and is an investigator for Valeant Pharmaceuticals North America, LLC, and is on the advisory board for Johnson & Johnson Consumer Inc.

Correspondence: Adam J. Friedman, MD, Department of Dermatology, 2150 Pennsylvania Ave NW, Washington, DC 20037 (ajfriedman@mfa.gwu.edu).

What does the patient need to know at the first visit?

Because patients have Dr. Internet on call within seconds on their smartphones and tablets, there are several points I review with patients as a semi-preemptive strike.

Spironolactone is not approved by the US Food and Drug Administration for the treatment of acne; however, it has been used for decades for acne and even longer for the management of high blood pressure (since 1957!). Because it is a potassium-sparing diuretic, patients need to be careful not to get too much of a good thing (ie, potassium). I counsel patients on potassium intake, including sources such as diet (ie, fruit/fruit drinks), coconut water (very popular right now), and over-the-counter nutritional supplements.

Spironolactone is used in varying doses depending on the situation (25–200 mg daily), but it is important to start with a lower dose and escalate in a stepwise fashion, if needed, depending on how the patient is doing. I usually tell the patient it requires at least one boost in the dosage (around 50 mg twice daily) to appreciate notable results; however, patients will often have some improvement even at the lowest dose of 25 mg twice daily within 4 weeks of treatment initiation, which is when I have them return for reevaluation.

Spironolactone will help with acne on the face, back, and chest.

The majority of side effects associated with spironolactone are dose dependent; low-dose therapy (25–50 mg daily) generally is well tolerated, and even 100 mg daily is not problematic in most cases. Dose-dependent side effects include frequent urination, menstrual irregularities, breast tenderness and/or enlargement, low blood pressure, hyperkalemia, and reduced libido. Of note, a recent study (Plovanich et al) found that the incidence of hyperkalemia in healthy young women taking spironolactone for acne is equivalent to the baseline rate of hyperkalemia in this specific population. Therefore, routine potassium monitoring is unnecessary for healthy women taking spironolactone for acne. I tend not to check potassium in these patients unless I head to higher doses due to poor response or I am treating female pattern alopecia, which often requires higher dosing.

Spironolactone has sufficient data to suggest that long-term use appears to be safe overall. There was one long-term study with patients who received spironolactone for up to 8 years for the treatment of acne vulgaris (Shaw and White).

Spironolactone can be used as monotherapy or in combination with OCs safely. In fact, by prescribing

spironolactone in combination with OCs you can kill 3 birds with 1 stone from efficacy (the synergy between the two often allows for lower dosing of spironolactone without compromising impact), contraception prevention, and dysmenorrhea perspectives. I do offer OCs to eligible patients who are starting on spironolactone. In general, spironolactone can be used safely in combination with oral antibiotics, though oral antibiotic use should be short-term to limit rising rates of antimicrobial resistance. Of note, there may be risk for hyperkalemia when spironolactone is combined with trimethoprim-sulfamethoxazole, so its use should be avoided in this setting.

How do you keep patients compliant with treatment?

If androgens are playing a notable role in the patient's acne, some response is usually noted by even the first return visit, which I always make for 4 weeks later, unlike with other acne treatment regimens, which I usually make for 7 to 8 weeks later. Even though most treatments require at least 8 weeks to show any sign of improvement, even spironolactone at times, close follow-up allows me to increase the dose, which is often needed, or change to another medication if the patient is not tolerating it. Given that I stress it will require taking the medication every day in a consistent fashion to allow me to effectively evaluate it, the short time frame between visits also enhances compliance, as it encourages the patient to actually take the medication and incorporate it into her routine.

What do you do if patients refuse treatment?

I always tell my patients they are the captains and I am helping them navigate through their disease. I will, however, discuss the chronicity of acne as well as the long-term sequelae of this inflammatory disease including scarring and postinflammatory pigment alteration for which there are no great treatments. I also tell them that if there is any issue with the medication, we simply stop, and the likelihood for severe adverse events is exceedingly low based on the evidence and anecdotal experience.

SUGGESTED READINGS

- Plovanich M, Weng QY, Mostaghimi A. Low usefulness of potassium monitoring among healthy young women taking spironolactone for acne. *JAMA Dermatol.* 2015;151:941-944.
- Schmidt TH, Shinkai K. Evidence-based approach to cutaneous hyperandrogenism in women. *J Am Acad Dermatol.* 2015;73:672-690.
- Shaw JC, White LE. Long-term safety of spironolactone in acne: results of an 8-year followup study. *J Cutan Med Surg.* 2002;6:541-545.