

Treating Acne in Women

Marianne Nelson O'Donoghue, MD

The pathogenesis of acne consists of follicular keratinization, increased sebum production, increased bacterial proliferation of *Propionibacterium acnes*, and inflammation. There is a plethora of treatment options that target these pathogenic factors, but treatment should be tailored to the patient's needs, using caution in pregnant women, as some therapies for acne can cause fetal harm.

Topical Therapies

Topical comedolytic agents consist of tretinoin, adapalene, and tazarotene creams and gels. These products have not been demonstrated to be safe in pregnancy. Other comedolytic agents such as sulfur, sodium sulfacetamide, α -hydroxy acids, and azelaic acid are less irritating on sensitive skin and are especially effective for women older than 30 years.

Antibacterial agents act by attacking *P acnes*, the major bacteria to break down the triglycerides into glycerol and the comedogenic free fatty acids. Benzoyl peroxide is the most effective antibacterial agent because it is lipophilic (goes right to the sebaceous glands), is capable of reducing the population of *P acnes* and decreasing free fatty acids, and is synergized with the other topical antibiotics. However, patients have to remember that benzoyl peroxide bleaches clothing and towels.

Topical erythromycin is an anti-inflammatory agent that decreases the population of *P acnes*. It suppresses chemotaxis and decreases the percentage of proinflammatory free fatty acids in the surface lipids. It is available in gels, solutions, and towelettes, and is regarded as being safe during pregnancy.¹

Topical clindamycin acts similar to topical erythromycin. It is effective, especially in combination with other topical products. However, the safety of topical clindamycin in pregnancy has not been determined.

Combining benzoyl peroxide with either erythromycin or clindamycin is better than either product alone. Three fixed-combination formulations with these ingredients are available: clindamycin 1%–benzoyl

peroxide 5% gel, erythromycin 3%–benzoyl peroxide 5%, and clindamycin phosphate 1.2%–benzoyl peroxide 2.5% gel. Applying the topical antibiotics separately is not as effective as these formulated combination products. Use of tretinoin in the evening and topical antibiotics in the morning may synergize all of these products for better efficacy.

Oral Therapies

Oral antibiotics have been used since the 1960s. Tetracyclines are effective because they are lipophilic, anti-inflammatory, antibacterial, and inexpensive. However, tetracyclines have several side effects. They may cause *Candida albicans* infections, especially vaginitis, in susceptible individuals. To prevent infection, give one 500,000-U tablet of mycostatin with each antibiotic pill. Tetracycline agents may not be given to pregnant women or a child who has not formed second teeth. Two large studies disproved the concept that antibiotics, specifically the tetracycline families, prevent the absorption of anovulatory drugs.^{2,3} Therefore, patients can take these antibiotics while on anovulatory drugs.

In patients who have irregular periods or who are not reliable, oral erythromycin might be a better choice of systemic antibiotics. The actions and advantages of oral erythromycin are similar to the tetracyclines. They are safely administered until a patient is sure she is pregnant or in a patient who is a child. Erythromycin does not stain the teeth of a fetus. The worst side effect of erythromycin is its gastrointestinal toxicity. Resistance to *P acnes* can develop.

On the other hand, minocycline has superior absorption from the gastrointestinal tract, is more lipophilic than erythromycin or tetracycline, is not a photosensitizer, and may be taken with food. Side effects include vertigolike symptoms and hyperpigmentation. It also may be expensive. In females taking 100 to 200 mg daily for long periods of time, a lupuslike syndrome and/or hepatitis may occur. These side effects may be dose dependent.

Doxycycline has similar advantages to minocycline including easy absorption, easy tolerance, and lipophilicity. However, it can cause severe

From Rush University Medical Center, Chicago, Illinois.
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photosensitivity for some patients, and it can be expensive.

Factors to Consider in Women

Many women, especially women in their mid-20s or older, have acne flares at ovulation or during their menses. Once the acne is controlled, the antibiotics can be increased for 3 days at ovulation to 5 days during menses. Eventually some women only take the antibiotics at ovulation and menses. In temperate zones, using doxycycline in the fall and winter and minocycline in the spring and summer can prevent long-term administration of either drug.

Some dermatologists recommend anovulatory medications or spironolactone for hormonal therapy. They should be administered on an individual basis.

In women it is important to recommend use of noncomedogenic cosmetics and avoidance of

moisturizers. Providing a list of acceptable products can be most helpful.

Conclusion

There are many factors to consider when treating women with acne. When choosing a therapy in pregnant women, consider if the benefits outweigh the potential risks.

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