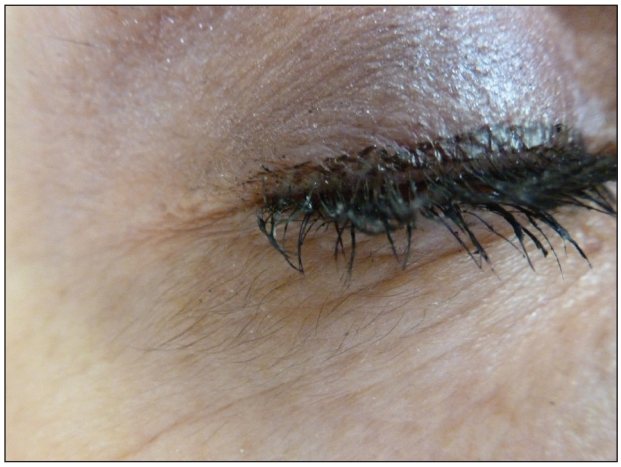
Acquired Hypertrichosis of the Periorbital Area and Malar Cheek

Caitlin G. Purvis, BS; Justin P. Bandino, MD; Dirk M. Elston, MD



An otherwise healthy woman in her late 50s with Fitzpatrick skin type II presented to the dermatology department for a scheduled cosmetic botulinum toxin injection. Her medical history was notable only for periodic nonsurgical cosmetic procedures including botulinum toxin and dermal fillers, and she was not taking any daily systemic medications. During the preoperative assessment, subtle bilateral and symmetric hypertrichosis with darker terminal hair formation was noted on the periorbital skin and zygomatic cheek. Upon inquiry, the patient admitted to purchasing a "special eye drop" from Mexico and using it regularly. After instillation of 2 to 3 drops per eye, she would laterally wipe the resulting excess drops away from the eyes with her hands and then wash her hands. She denied a change in eye color from their natural brown but did report using blue color contact lenses. She denied an increase in hair growth elsewhere including the upper lip, chin, upper chest, forearms, and hands. She denied deepening of her voice, acne, or hair thinning.

WHAT'S THE **DIAGNOSIS?**

a. acetazolamide-induced hypertrichosis
b. betamethasone-induced hypertrichosis
c. bimatoprost-induced hypertrichosis
d. cyclosporine-induced hypertrichosis
e. timolol-induced hypertrichosis

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From the Department of Dermatology, Medical University of South Carolina, Charleston.
The authors report no conflict of interest.
Correspondence: Justin P. Bandino, MD, 171 Ashley Ave, MSC 908, Charleston, SC 29425 (tantomed@gmail.com).

THE **DIAGNOSIS:** Bimatoprost-Induced Hypertrichosis

Latanoprost, a prostaglandin analogue, typically is prescribed by ophthalmologists as eye drops to reduce intraocular pressure in open-angle glaucoma.[1] Common adverse reactions of latanoprost drops include blurred vision, ocular irritation, darkening of the eyelid skin, and pigmentation of the iris.

In 1997, Johnstone[2] reported hypertrichosis and increased pigmentation of the eyelashes of both eyes and adjacent skin after latanoprost drops were used in glaucoma patients. Subsequently, topical latanoprost and bimatoprost, a similar analogue, are now utilized for the cosmetic purpose of thickening and lengthening the eyelashes due to the hypertrichosis effect. Travoprost, another prostaglandin analogue used to treat glaucoma, also has been associated with periocular hypertrichosis.[3] Concomitant poliosis of the eyelashes with hypertrichosis from latanoprost also has been reported.[4] Our patient specifically purchased the eye drops (marketed as generic bimatoprost) to lengthen her eyelashes and had noticed an increase in length. She denied a family history of increased facial hair in females.

Along with gingival hyperplasia, systemic cyclosporine may cause generalized hypertrichosis consisting of terminal hair growth, particularly on the face and forearms. However, hypertrichosis from cyclosporine ophthalmic emulsion 0.05% rarely has been reported[5] but would be more likely to occur in a patient reporting a history of chronic dry eye. Oral acetazolamide, not eye drops, is prescribed for glaucoma and typically is not associated with hypertrichosis. Betamethasone and timolol eye drops may cause burning, stinging, redness, or watering of the eyes, but they do not typically cause hypertrichosis.

Other systemic medications (eg, zidovudine, phenytoin, minoxidil, danazol, anabolic steroids) may cause hypertrichosis but not typically localized to the periocular area. Phenytoin usually causes hair growth on the limbs but not on the face and trunk. Oral minoxidil causes hypertrichosis, predominately on the face, lower legs, and forearms.

Systemic conditions such as endocrine abnormalities or porphyria cutanea tarda also may cause hypertrichosis; however, it typically does not present in small focal areas, and other stigmata often are present such as signs of virilization in hirsutism (ie, deepening of voice, pattern alopecia, acne) or liver disease with photosensitive erosions and bullae that leave scars and milia in porphyria cutanea tarda. Acquired hypertrichosis lanuginosa deserves consideration, in part due to its association with lung and colon cancers; however, it consists of softer, downy, nonterminal hairs (malignant down) and is more generalized on the face. Malnutrition from anorexia nervosa may similarly induce hypertrichosis lanuginose.

The molecular mechanism for latanoprost-induced hypertrichosis is unknown; however, it may promote anagen growth as well as hypertrophic changes in the affected follicles.[6] Patients should use extreme caution when purchasing unregulated medications due to the risk for impurities, less stable formulation, or inaccurate concentrations. Comparison between brand name and approved generic latanoprost has found notable differences, including variations in active-ingredient concentration, poor stability in warmer temperatures, and higher levels of particulate matter.[7] Some cosmetic eyelash enhancers sold over-the-counter or online may contain prostaglandin analogues, but they may not be listed as ingredients.[8] One report noted a bimatoprost product with a concentration level double that of brand-name bimatoprost that was discovered using high-performance liquid chromatography–tandem mass spectrometry.[9]

Treatment options for eliminating the excess hairs include discontinuing the prostaglandin analogue or applying it only to the eyelid margin with an appropriate applicator. Waxing, manual extraction, laser hair removal, electrolysis, and depilatory creams are alternative treatments.

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