

From the EDITOR



Dr. Wulf H. Utian, consultant in women's health and reproductive endocrinology, has served as Editor-in-Chief of *Menopause Management* since its inception in 1988. The Arthur H. Bill Professor Emeritus of Reproductive Biology and Obstetrics and Gynecology, Case Western Reserve University School of Medicine, he is also Consultant, Obstetrics, Gynecology and Women's Health Institute at the Cleveland Clinic, and Executive Director of The North American Menopause Society (NAMS). He is Chairman of the Advisory Board of Rapid Medical Research, Cleveland. He received his medical degree from the University of Witwatersrand, Johannesburg, South Africa, and his PhD from the University of Cape Town, South Africa, and is a Fellow of the Royal and American Colleges of Obstetricians and Gynecologists, as well as the International College of Surgeons. In 2007 he earned the DSc(Med) degree from the University of Cape Town, its highest degree and only awarded 11 times in over 100 years.

A pioneer in Women's Health issues and menopause research, in 1967 he established the Groote Schuur Menopause Research Clinic in Cape Town, the world's first such clinic. He was one of the three original founders of the International Menopause Society in 1976, of which he is Honorary Past President, and founded the North American Menopause Society in 1989.

He is the recipient of numerous national and international awards and research grants, and is still an active investigator with multiple grants. Dr. Utian has written over 200 papers related to the reproductive system in women and has authored five books on menopause and its effects on women. He is editor of *Menopause: The Journal of The North American Menopause Society*.

Skin: Impact of Menopause, Aging and Hormones

Beauty is more than skin-deep, but skin is what you see, and skin is what many women care about. The cosmetic and plastic surgery industries can certainly attest to that, as do the concerns so many women bring up during their annual physicals when they complain of wrinkles or looking older.

More to the point is that skin is one of our largest organs and is not just a body wrapping. Skin is multifunctional and dynamic. When things go wrong with skin, many aspects of general health can be impacted, and vice versa. The skin is often the window into the health of your patient! So, beyond the protective covering and psychosocial effects of healthy-looking skin, consider its role in immune surveillance, thermoregulation, vitamin D production and potential pathologies like cancer.

These properties and skin changes may be affected by intrinsic factors, including genetic predisposition, age, menopausal status, hormonal status, general state of health and medication usage. Extrinsic factors are also important; most notably, of course, the harmful cumulative ultraviolet (UV) impact of sun exposure throughout life. I will not address here the concerns around solar keratoses, pigmentation disorders and skin malignancies like basal cell carcinoma and melanoma—all of which can be causally related or negatively impacted by too much sun. You most certainly do need to think about them as you do an annual skin evaluation.

Skin, Menopause and Hormones

Let us focus on the relationships between skin, menopausal status and hormone therapy (HT).

Research into menopausal status, exogenous hormones (including estrogens) and skin changes has been limited, but some excellent data do exist. From the limited information available, it can be affirmed that estrogens are actively bound and metabolized in all components of skin. Furthermore, skin is actually a major source of peripheral estrogen synthesis through peripheral

conversion of androgens, and this ability increases with age. Consequently, many skin changes occur through and beyond the menopause transition, including an impact on thermoregulation through sweating, skin dryness, atrophy (wrinkling) and cosmetic appearance, vitamin D production and wound healing.

Sweating. Little need be said about vasomotor symptoms and the accompanying sweating. The latter is a response to the increase in core body temperature in association with the hot flash. It is common knowledge that antiperspirants are essentially useless for this symptom, and appropriate use of estrogen therapy or estrogen/progestogen therapy remains the treatment of choice.

Skin dryness. The epidermis becomes progressively thinner after menopause. A common complaint related to skin dryness is itching (pruritus), pain or worsening of pre-existing dermatoses. The stratum corneum, which is the outermost layer of skin, reduces its water-holding ability. Usually this layer is fairly impervious to water flow in both directions. Activity of special skin organs like the sebaceous glands, hair follicles and sweat glands is also affected by increase or decrease of estrogen exposure. Skin flaking occurs and this compromises the barrier function of skin, allowing microbial invasion or activation of the inflammatory response.

Advice to the patient needs to include avoidance of skin-care items that can exacerbate drying (such as astringents and harsh soaps) and sun avoidance. Occlusive skin creams—such as those containing glycol or glycerol stearate, petrolatum or lanolin—will promote hydration by decreasing evaporation. I also encourage utilization of broad-spectrum UVA/UVB sunscreen products to mitigate against further photodamage. I will comment on the role of estrogens later.

Atrophy and wrinkles. Less appreciated than the thinning of the epithelium is the significant loss of soluble collagen with the slower rates of collagen synthesis and turnover that are associated with loss of ovarian activity. The epithelial thinning explains the small hairline wrinkling (sometimes referred to as tissue paper wrinkles), while the deeper dermal atrophy accounts for the deep and more noticeable wrinkles. Although age also plays a role, as much as 30% of

skin collagen is lost within the first 5 years after menopause. This loss of collagen accounts for a dramatic decrease in skin thickness. Widespread loss of collagen occurs and there is a direct correlation between risk of osteoporotic-related fractures and skin thickness and bone density. To this collagen loss is added an alteration and deterioration in skin elastic fibers, both having been demonstrated to be directly related to hormone function and HT. The latter, if started early after menopause, may potentially arrest deterioration, and has also been demonstrated to increase collagen and elastic fibers in postmenopausal women.

The problem regarding HT is that it needs to be considered within the full context of potential risks and benefits, and if such therapy is started and then later stopped, any potential beneficial effect will go back into reverse. Topical retinoids should also be considered, with two products having FDA-approval for palliation of wrinkles and irregular pigmentation of photo aging: tretinoin and tazarotene.

Other changes. Wound healing after menopause becomes less efficient, particularly for chronic lesions like leg ulcers. The question of age-related versus hormone-related contribution to this problem has not been adequately answered.

Vitamin D production, increasingly recognized for multiple beneficial effects, is dependent on healthy skin. Thus, menopause may contribute indirectly to less efficient vitamin D production through its negative effects on the skin, and some form of HT may be of value.

The psychological impact of skin aging needs little emphasis. Sense of self-image impacts self-confidence which, in turn, may impact global quality of life.

Skin and Hormone Therapy

There was a time, years ago, when cosmetics contained estrogenic steroids. Banned by the FDA for obvious reasons, this has once again become an area in need of further exploration.

Systematic HT, whether by an oral or a transdermal route, can partially reverse skin thinning and atrophy, reducing wrinkling, as mentioned amongst the effects previously discussed. Nonetheless, it would be irresponsible at this time to

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bone strength and prevent fractures. Adequate calcium and vitamin D are also encouraged for her bone health.^{7,8}

Counseling the Patient

The patient is now just about convinced that ET is the treatment for her. The clinician orders more tests, including follicle-stimulating hormone and serum estradiol to confirm that menopause has been reached, dual-energy x-ray absorptiometry to get a baseline measurement of her bone density, and vitamin D level to rule out any nutritional deficiency. Once these results are in, the patient can begin ET. She is encouraged to schedule regular checkups to monitor her progress and adjust her treatment plan, if necessary, to ensure optimal relief. ■

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Disclosure: Dr. Goldstein reports: Advisory board—Boehringer Ingelheim, Eli Lilly, GlaxoSmithKline, Merck, Novartis, Novo Nordisk, Pfizer, Procter & Gamble, Upsher-Smith, Wyeth. Consultant—Ackrad Labs, Cook Ob/Gyn. Director—SonoSite. Speaker's bureau—Eli Lilly, Procter & Gamble, Wyeth.

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prescribe HT for prolonged periods with the sole indication being prevention or slowing of skin aging.

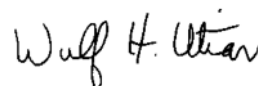
But what about topical use of estrogens? Covering large areas of skin, even with very low-dose products, would still result in unacceptably high systemic levels through transdermal absorption. This represents a challenge and a potential windfall for the developer of a product that works locally without absorption or without systemic effect.

Conclusions

Never forget the skin when you perform your annual evaluation of your menopausal patients. Ask about symptoms of skin dryness, pruritus and lack of wound healing, as well as cosmetic concerns. Do a complete skin examination to exclude suspicious lesions, and refer to the dermatologist as necessary. Remember, the skin can be your first indicator of a potentially serious systemic illness. Consider the growth-promoting effects of estrogen on the stratum corneum, fibroblasts, collagen

and elastic fibers as a potential benefit when balancing pros and cons for indicated HT. Above all, counsel about sun protection, avoidance of skin-drying agents, use of occlusive moisturizers and the potential role of topical retinoids.

Like Sherlock Holmes, be observant—your patient's skin quality will tell you much about her state of health and frame of mind!



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Suggested Reading

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