



Synopsis By Susanne S. Warfield

Medical Aesthetics Research

Included are selected presentations from meetings of the American Society of Plastic Surgery, the Society for Investigative Dermatology and the American Academy of Dermatology.

American Society of Plastic Surgeons Annual Meeting, October 6-11, 2006, San Francisco, California.

Presented by Alexander B. Dagum, MD.
"Collagenase in the Treatment of Cellulite,"

Women may have a fighting chance to diminish the appearance of cellulite through collagenase enzyme injections, according to results from a preliminary clinical trial.

One of the most common and most frustrating problem areas for women is their thighs. Even healthy-weight women often have cellulite in this area, according to Alexander Dagum, MD, ASPS Member Surgeon and Chief of Plastic Surgery at Stony Brook University Medical Center (SBUMC) in New York. Initial findings suggest that women may one day be able to safely and effectively reduce that "cottage cheese" appearance with a visit to their plastic surgeon's office.

In the study, authored by Dr. Dagum and Marie Badalamente, PhD, professor of orthopaedics at SBUMC, 10 female patients received collagenase injections in their thighs. Subjective measurements of the cellulite and photographs were taken before and after the procedure. Within one day, patients had a 77% decrease in the appearance of cellulite. After six months, results remained noticeable, with patients experiencing a 76% decrease in the appearance of cellulite. There was no significant change in the patients' body mass index or thigh measurements.

At six months, all patients said they were either very or completely satisfied with their results. The only side effects, which lasted one to two weeks, were soreness, mild swelling and bruising.

Collagenase, an enzyme naturally found in the body, helps to break down fibrous tissue by dissolving collagen. Removing these anchoring fibers and breaking up enlarged fat cells seem to release the outer tissue, causing the skin to appear smoother, according to Dr. Dagum.

Before starting this study, Dr. Dagum said that he was highly skeptical that collagenase injections would help smooth out the appearance of cellulite. Initial results show this procedure may quickly reduce cellulite with minimal, if any, side effects.

Presented by Miles H. Graivier, MD.
"Not All Fillers Are Safe for Lip Augmentation,"

Lip augmentation is not just for women who want larger, sexier lips. As people age, their lips lose fullness which makes them appear older. While injectable fillers can combat aging around the mouth, not all are equally effective in this area and some can even lead to long-lasting complications.

Numerous injectable fillers have entered the market over the last five years giving patients a number of options for fuller, younger-looking lips. But patients need to be aware of the risks and benefits of these products. Some fillers carry a higher risk of complications, depending upon where they are injected, and can lead to unsatisfactory results.

During lip augmentation and rejuvenation of the aging mouth, it is best to address all of the following areas: the outer mouth (laugh lines), edge of lip (lipstick lines), and inner lip. While injectable fillers can improve these areas, some are more appropriate than others depending upon the targeted area.

Semipermanent fillers are best around the mouth and along the lip border. They help to redefine the edge and fill in lipstick and laugh lines. However, when semipermanent fillers are injected into the inner lip, patients may experience a higher rate of complications like visible lumps and clumping. Since results can last between one and two years, this can leave patients with a poor result for several months.

The gold standard for augmenting the inner lip is hyaluronic acid fillers, which last three to six months. Hyaluronic acids carry little risk because of their short-term results. Collagen can be used, but due to collagen's high cost, hyaluronic acids are considered superior.

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When most people think of lip augmentation, they immediately picture lips like those of Angelina Jolie, stated Dr. Graivier. However, the average lip augmentation patient is aged 35 to 64 and has the procedure to restore, not to overfill. Lip augmentation, combined with rejuvenation of surrounding problem areas like laugh lines, can really remove years from your appearance. The key is using the appropriate filler in the correct area.

Society for Investigative Dermatology Meeting, May 3-6, 2006, Philadelphia, Pennsylvania.

Presented by Richard Gallo, MD.

"The researchers discovered an abnormality in the production of protective molecules known as cathelicidins."

"Allergy-Like Reaction May Trigger Rosacea Bumps and Pimples,"

The papules and pustules of rosacea, a poorly understood facial disorder affecting an estimated 14 million Americans, may be the result of an allergy-like reaction to environmental and emotional triggers, according to new study results presented at the National Rosacea Society (NRS) research workshop during the annual meeting of the Society for Investigative Dermatology. "We are very excited about these findings because they may provide the basis for improving the treatment and management of this condition," said Dr. Richard Gallo, chief of the division of dermatology at the University of California in San Diego and lead investigator of the NRS-funded study. "By defining the process leading to the inflammation, new medications might be developed to block these effects."

Dr. Gallo explained that when the normal immune system is faced with any of a broad range of potential dangers—such as sun exposure, emotional stress, heat, spicy foods and many others—receptors recognize potential threats and prompt the production of protective substances that isolate and neutralize any harmful effects. With rosacea, however, these protective substances turn the body on itself like overzealous guards, leading to inflammation.

"Using advanced mass spectrometry technology to analyze the biochemical composition of proteins in rosacea patients, the researchers discovered an abnormality in the production of protective molecules known as cathelicidins," Dr. Gallo said. In normal patients, cathelicidins, small cationic peptides that possess broad-spectrum antimicrobial properties, are found in a form that is inactive and would not lead to bumps and pimples. In rosacea patients, the forms of cathelicidins are different and lead to skin inflammation. The cause of this abnormality in cathelicidins seems to be an equally important problem in rosacea—an overabundance of yet another substance, an enzyme called kallikrein, which can spur dormant cathelicidins into action. It appears that the combination of these two substances at abnormally high levels is a double whammy for rosacea patients.

The researchers recently completed the picture when they were able to demonstrate that this process is linked to the actual formation of rosacea signs and symptoms. The skin of mice injected with the cathelicidins found in rosacea patients showed a dramatic inflammatory response, including bumps and pimples, while mice injected with normal cathelicidins showed no inflammation, either visually or under a microscope.

"The next step is to test these findings in human subjects through various therapeutic interventions," Dr. Gallo said. "As we gain a thorough understanding in humans, we can look for new medications that block this process in order to treat or prevent the inflammation associated with rosacea."

American Academy of Dermatology SKIN Academy, October 18, 2006, New York.

Presented by Debra Jaliman, MD, FAAD.

"Hormones and the Skin: The Role Hormones Play As We Age,"

Aging can be affected by your hormone levels. Fluctuating levels of hormones can have an impact on the skin, hair and nails of women that can be physically and emotionally challenging, starting at puberty and extending beyond menopause.

Acne typically first appears during adolescence and can persist well into adulthood. The cause of acne is most often linked to androgens, which are the hormones that stimulate the sebaceous glands in the skin. When the sebaceous glands are overstimulated by androgens, acne flare-ups can occur. For women affected by acne, especially those in their 20s or older, oral contraceptives can be an effective part of their acne treatment plan in conjunction with other thera-

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pies. In addition, oral medications or topical creams, gels or lotions with vitamin A derivatives, benzoyl peroxide, or antibiotics may be prescribed.

Fluctuations in androgens also can cause **hirsutism**. Male-like patterns of hair may appear on the upper lip and chin, and more hair growth than usual may be seen on the arms and legs, and even on the chest and in the groin area. Hirsutism can be treated topically with creams such as eflornithine, and the unwanted hair can

called **telogen effluvium**. This temporary shedding can be sudden and very alarming to some women, according to Dr. Jaliman. However, hair growth will subsequently return to normal approximately four to six months following pregnancy. Nails are also affected by the hormonal changes of pregnancy with most women experiencing brittle nails, although some may be diagnosed with distal onycholysis, a separation of the nail plate from the underlying nail bed.

As you age, slight modifications to your daily skincare regimen can go a long way toward improving the appearance of your skin, hair and nails.

be removed by waxing, shaving or laser treatments.

Dr. Jaliman emphasized that acne with hirsutism could indicate a more serious medical condition for which acne is just one symptom. When persistent acne is accompanied by hirsutism and hair loss or thinning hair, it could signal increased androgen production common in conditions such as polycystic ovarian syndrome and adrenal hyperplasia. Women with hormonal acne may also experience irregular menstrual cycles, obesity, infertility or diabetes. It's vitally important for these women to consult a physician, as a blood test can determine the cause of these symptoms and the best treatment option.

As a woman enters her childbearing years, many hormonal changes can occur, especially during pregnancy. The estrogen-related change of pregnancy that is most noticeable is **melasma**, also known as the "mask of pregnancy." This benign condition is attributed to an overproduction of melanin, a natural substance in the body that gives color to the hair, skin and eyes. Treatment options include topical prescriptions or over-the-counter products containing hydroquinone, or prescriptions for retinoids, azelaic or hydroxyl acids. In-office procedures, such as the use of lasers and peels, can be used after pregnancy to remove the pigment. No treatment of melasma is complete without the daily, year-round use of a broad-spectrum sunscreen that protects against both ultraviolet A and ultraviolet B rays. Dr. Jaliman recommends a sun protection factor (SPF) of 30 or higher to prevent further darkening of the skin.

While pregnant, most women experience a thickening of the hair. Three to six months after delivery, some women will experience hair loss and thinning,

As a woman enters **menopause**, several hormonal changes occur. The estrogen level in the body begins to lower and women will begin to notice a thinning of their skin and loss of elasticity. As we age, the skin often becomes drier and more sensitive. "At this point in life, I would recommend a skincare regimen including a prescription retinoid, either tretinoin or tazarotene, or over-the-counter products such as retinol, alpha hydroxy acids, antioxidants or peptides," said Dr. Jaliman.

As women age, hair is also affected by the changing levels of hormones. Some women may experience a pattern of hair loss known as **androgenetic alopecia**, in which hair thins on the vertex or top of their head and hair becomes finer in texture. Women retain their hairline better than men with this type of alopecia, which is primarily genetic. This kind of female hair loss is treated with topical minoxidil and other therapies including oral medications that can block the effect of androgens, such as hormone replacement therapy and spironolactone.

As you age, slight modifications to your daily skincare regimen can go a long way toward improving the appearance of your skin, hair and nails, concluded Dr. Jaliman. ✦

Author of several textbooks for the medical aesthetic industry, Susanne S. Warfield is also president/CEO of Paramedical Consultants, publishers of *PCI Journal—The Medical Journal for Skin Care Professionals*, the official journal of the Society of Dermatology Skin Care Specialists. Some of the above excerpts are reprinted with permission from *PCI Journal* (www.pcijournal.com).