Natural Born Fillers

Say goodbye to synthetics. The answer to looking younger just may be found in your very own cells.

PHOTO BY RICHARD PIERCE

London's tony Hurlingham Clinic and Spa used to be a quiet practice, the province of ladies of a certain age seeking a little nip or tuck and Sloane Rangers dropping by for some pre-vacation liposuction. Quiet, that is, until sought-after American--trained plastic surgeon Daniel P Goldberg alerted his patients to a new therapy. With a few syringes of a cutting-edge injectable, he told them, they might finally banish their acne scars and wrinkles. Now his patients are competing to get on the waiting list-currently six months long and growing-to pay upwards of $4,500 for the world's newest aesthetic fix.

The injectable is Isolagen, an experimental collagen-producing material, and Goldberg is one of a handful of top London doctors who offer it. He may soon have company, however, and on these shores as well: While the product is currently available only in the UK and Australia, Isolagen Inc., in Houston, anticipates obtaining FDA approval and introducing it in America in 2005. Doctors in the United States who recently completed clinical trials found that an injection of Isolagen-which is composed entirely of fibroblasts, the connective tissue cells that prompt skin proteins to grow-plumped up and smoothed out everything from lip lines to crow's-feet.

What's groundbreaking here is neither Isolagen's purportedly miraculous effects nor its allegedly long-term staying power but its provenance. First, a doctor removes a three-millimeter section-smaller than the diameter of a pencil eraser-of virgin skin, never exposed to the sun, from behind a patient's ear and sends it to Isolagen's lab. There, scientists use the skin biopsy to reproduce the patient's fibroblasts by the millions. Six to eight weeks later, the company sends the doctor a syringe with enough material to inject one area of the patient's face, whether it be an eyebrow fold or a smile line. Within a month, the theory goes, those cells should have grown and melded with existing collagen, filling out the skin from within.

If this cell therapy proves to endure over the long term, it may herald a paradigm shift in aesthetic medicine, one in which the cure for aging skin is derived directly from the patient. But it won't come cheap. If Isolagen gains FDA approval, three syringes of the stuff-enough to fill in crow's-feet around both eyes plus one scowl line-will run about $5,000. Nor will the results be as instantaneous as with Botox: Once injected, Isolagen takes a month to start showing its effects and six to 12 months for maximum results. The real draw is medical compatibility, the idea that patients would not be allergic to or infected by shots of their very own cells.

"My patients love the fact that Isolagen is not a foreign substance but part and parcel of their own tissue," says W Gregory Chernoff, a Santa Rosa, California, plastic surgeon who has been conducting Isolagen clinical trials over the past decade. "My bet is that, once Isolagen gets FDA approval, it will wipe out the rest of the injectable market."

Doctors often used to differentiate treatments by their longevity. "Permanent" procedures, such as Gore-Tex chin implants, are intended to endure for a patient's lifetime, versus "temporary" treatments, such as collagen injections, which last for several months. But now doctors are starting to classify aesthetic options by their origins: synthetic, homologous (natural but not necessarily human) or autologous (derived from patients themselves).

"I stay away from permanent synthetics--especially silicone-which are artificial materials that have the potential to cause permanent damage," says New York facial surgeon Michael Evan Sachs. "Some of the homologous biologically derived fillers are great, but others, such as bovine collagen, can cause allergic skin rashes. Which means that human-derived and self-derived are potentially the ideal fillers of the future-once they've been perfected."

So Sachs and other cutting-edge practitioners are all closely watching the advent of treatments, such as Isolagen, in which patients are their own best medicine. "Why increase volume by injecting silicone or collagen if you can just put in your own natural cells, activate your body to repair itself, and regrow what you've lost?" says Marc G. Rubin, a Beverly Hills dermatologist who recently conducted an Isolagen clinical trial on acne scars. "It's as if, instead of putting in dentures, you could sprinkle your own ground-up tooth powder in a gap where you are missing a tooth and just grow a new incisor."

Self-help: Isolagen contains cells derived from a patient's own skin.

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In other areas of medicine, forward-looking patients already store their own tissue, banking their blood before a major surgery or having their children's umbilical cords preserved. But Isolagen and fat stem cells may be ushering the new high-tech era of regenerative medicine into aesthetic surgery.

As with all cutting-edge biotechnology, there are questions about the long term effects-whether for example an injection of millions of extra cells might cause skin to plump up too much. In a statement, Isolagen Inc. says that tissue overproduction is "not possible," because cells that are removed from behind the ear and transferred to the face "are subjected to the same powerful growth control mechanisms in the tissue that they have always been." And with no reports of side effects so far, doctors seem entranced.

-NATASHA SINGER

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