

Bioplastique: Specific Technical Advice on Its Use and Possible Complications

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After the recent submission of several papers to this journal, *Aesthetic Plastic Surgery*, from the *Minimally Invasive Injection Surgery* symposium held in East Grinstead, I wish to emphasize several complications or untoward events that have occurred following the misuse and inappropriate application of Bioplastique.

I began using Bioplastique clinically at the beginning of 1988 and first presented my findings at the facial contouring and cadaver dissection symposium in San Diego in January 1989. This was an oral presentation and, of course, I only had a few patients at the time. Since then, I have had more than 100 patients with the longest follow-up observations coming approximately 3 years later in some cases.

After about a year of initial clinical trials, I then went to several other university centers to attempt to teach these new techniques and how to administer this new substance to Board certified plastic surgeons in specific centers of influence. I began with D. Ralph Millard, Jr. in Miami, and there are now some twelve University Centers studying Bioplastique in a protocol for formal presentation to the PDA. These 12 centers, of which the University of Miami is now first to have a total of approximately 100 patients that have been studied for as long as two years, with more than six months completed as follow-up studies on every patient.

In addition, in approximately December 1989, I went first to Germany where I trained and presented this work to Professor Behmer, Professor Lemperle and Professor Rolf Olbrisch, and then went to Holland, Belgium, Switzerland, Austria, France, En-

gland, Norway, Finland, Spain, Japan, Hong Kong, Taiwan, and Singapore. In each country I would go the University Centers of Plastic Surgery and attempt to teach the Chief of Plastic Surgery and several of his staff the problems and techniques of Bioplastique application. Currently, therefore, more than 2,000 patients have received Bioplastique in various anatomical locations. Complications that I have personally seen have also been seen by others and even amplified by others. This substance functions as represented, that is: it is easily implanted through a blunt twenty gauge cannula and it stays where it is placed. The only complications have been caused by placing too much material too close to the skin surface; it should never be used *in* the skin, but only deep under the skin. I believe its best applications will be for small defects of the nasal dorsum, chin augmentations, malar augmentations, hollow cheeks, and aged hands. I believe it will not be found useful for any wrinkling in the skin and will be of some but limited usefulness in acne scars and other such shallower deformities.

I have personally removed Bioplastique from some of my early patients where I used too much for lip augmentation or put too much in one spot or too much too close to the skin surface. This can easily be prevented by moving the cannula constantly (30 cms. per pull of the trigger) and by putting in far less than one thinks is needed. Fortunately, Bioplastique can be removed by micro-liposuction techniques with a sharp 18 gauge needle or by direct excision. This removal, of course, includes the surrounding scar tissue. I have recently treated two patients, initially treated by other doctors (whom I did not personally train), who had such complications. In both cases, far too much Bioplastique was injected in a casual, cavalier manner, too close to the surface of the skin.

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One patient had a deficient vermilion border on one side of her upper lip which was injected with far too much Bioplastique so that she had hard, lumpy lips. Surprisingly, this patient was not concerned about the hardness or lumpiness but that the lips were a little too thick in some places. However, she wanted still more Bioplastique placed in the deficient vermilion to make it as large as the rest of the lips. Another patient was a beautiful model who complained of a shadow beneath her eyes where the bulge of the lower lids met the orbital rim and thicker cheek skin. Someone injected her with Bioplastique along this shadow, but placed it within the skin and within the orbicularis oris muscle and/or between it and the thin, overlying skin. Too much was put in and not evenly enough, and the cannula was not moved sufficiently. In this case the material formed firm beads that could be palpated and seen beneath the skin, especially in an upward gaze. In both of these cases these complications could have been prevented by putting in less material with many more strokes.

Bioplastique: Technique and Complications

The difficulty in teaching this technique is to convince the operator that the purpose of the injection gun is not to make the injection easier, quicker or more voluminous: It is the exact opposite. Large amounts of Bioplastique can be injected through a twenty gauge needle without any trouble at all, with any syringe. The purpose of the gun is to allow the operator to very precisely place less Bioplastique, and to place it exactly where he wants to. The big mission is to convince the plastic surgeon who feels he fully understands injection surgery because he has been doing it with autologous fat or collagen for years, that this is a different procedure that requires a different kinesthetic sense and a different concept. Having done so myself. I believe that Board certified plastic surgeons throughout the world will be able to use this effectively and safely and like Gerard Simons in Tours, France, use it in more than 100 patients in a year with good results and many repeat requests.

I am preparing a specific manuscript on complications of Bioplastique which will be published soon in this journal. In the meantime, I want to be certain that these caveats are understood by our readers.