My Approach To Cosmetic Dermatology

Treating the Aging Face

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Disclosure Information
2016 AOCD Spring Current Concepts in Dermatology Meeting
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I have the following financial relationships to disclose:

I was previously a speaker/trainer for Valeant Pharmaceuticals regarding use of polylactic acid. I am not at present.

I will discuss the following off-label use and/or investigational uses in my presentation.

Silicone
Deoxycholic acid
Neuromodulators
Disclosures (cont’d)

• Use of trade names

• Off label use of drugs
Appointments

• Department of Dermatology. University of Connecticut, Farmington – Clinical Instructor

• University of New England. College of Osteopathic Medicine – Clinical Assistant Professor of Dermatology

• Eastern Connecticut Health Network (ECHN) – Attending Dermatologist / Clinical Assistant Professor
Procedures

• Neuromodulators:
  – Botox, Dysport & Xeomin

• Fillers
  – HA’s: Restylane, Restylane Silk, Restylane Lyft, Perlane, Juvederm, Bellotero
  – Calcium Hydroxy Apetite: Calcium Hydroxyapatite
  – Poly Lactic Acid: Polylactic Acid
  – Silicone
Procedures

• Laser: Vbeam, Yag
• Intense Pulsed Light
• Radio Frequency
• Sclerotherapy
• Chemical Peels
• Deoxycholic acid
Aging Changes

• Intrinsic – aging
• Photodamage – sun exposure

  – Wrinkles
    • Volume Loss
    • Dynamic

  – Surface Changes

  – Pigmentary Changes
Patient Evaluation

• Patients really don’t know what they want.
• Patients do not understand how their face ages.
• Most point to nasolabial fold and marionette lines.
• Just filling in these areas creates a heavy lower face.
Excessive Filling of Parenthesis Lines

Calcium Hydroxilapatite injected by another plastic surgeon

Courtesy Ran Y. Rubinstein, MD
Hyaluronic Acids

- Forgiving
- Go away
- Immediate
- Can dissolve with hyaluronidase
Calcium Hydroxyapatite

- Thicker product
- Watch for vascular occlusion
- Calcium hydroxyapatite
- Face and hands
Poly Lactic Acid

• Results take months
  – 2 to 3 treatments minimum
• Lasts years
• Highly technique dependent
Silicone

• Permanent
• I use only for lips, scars and “fixed” scar-like wrinkles.
• Never goes away but patients age and need more because of more collagen loss.
Youthful Face

• Cheek bones heart shaped
Older Face

- Upper face flattens
- Lower face expands
Male Face

- Angular
- Keep it that way
Polylactic Acid

- Polylactic Acid is indicated for restoration and or correction of the signs of facial fat loss (lipoatrophy) in people with human immunodeficiency virus.
- Polylactic Acid Aesthetic is intended for use in people with healthy immune systems for correction of shallow to deep nasolabial fold contour deficiencies and other facial wrinkles.
1950 ... 1970 ... 1990 ... 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009

1954 Originally Synthesized in France
1970 Braided and monofilament sutures
1990 Orthopedic Applications
2002 Acquired by Dermik and sold as Polylactic Acid (more refined product)
2005 Sanofi
2006 Canadian Approval
2007 FDA Approval in the US as Polylactic Acid for use in HIV Lipoatrophy
2008 Formal Training Program Implemented
2009

Soft Tissue Augmentation Studied in HIV Lipoatrophy

FDA Approval in the US as Polylactic Acid for use in HIV Lipoatrophy

Canadian Approval

Formal Training Program Implemented

Introduced as a new Dermal Filler Biotech New Fill

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Formal Training Program Implemented

1950 ... 1970 ... 1990 ... 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009

courtesy Danny Vleggaar, MD
Composition of Polylactic Acid

- Poly-L-lactic Acid (PLLA) microparticles
- Sodium carboxymethylcellulose
- Mannitol
Characteristics of Poly-L-lactic Acid

- Synthetic polymer
- Derived from the alpha-hydroxy-acid family
- Crystalline, amorphous mixture
- Biodegradable
- Biocompatible
Response to PLLA Injection

• Involves several progressive phases

• Immediate mode of operation
  – Related to injected volume
  – Injection-related edema resolves in several hours to a few days

• Tissue response
  – Foreign body reaction
  – Gradual production of collagen as polymer degrades (collagenesis)
Collagen growth at 1 year with injectable PLLA

- Injectable PLLA corrects underlying causes of the signs of facial aging by replacing structure, restoring volume, and refining lines and wrinkles\textsuperscript{1-4}.

Histologic examination (hematoxylin-eosin stain, 400x original magnification) exhibiting microparticles of injectable poly-L-lactic acid with adjacent aggregation of giant cells, histiocytes, and collagen fibers.\textsuperscript{5}

Nasolabial biopsy from a 55-year-old woman, 1 year after last treatment with Sculptra\textsuperscript{®}Aesthetic (injectable poly-L-lactic acid).

* Based on preclinical evaluation in animals Sculptra\textsuperscript{®}Aesthetic is thought to work in a similar process.

Please see full Prescribing Information available at this presentation.

Polylactic Acid

• Volume and Lifting
  – Restores fullness of the face, creating a more natural appearance

• Duration
  – Improvements in dermal thickness persist for up to 2 years

• Biocompatibility
  – Biodegradable, biocompatible
Unique

- Polylactic Acid is the only truly stimulatory filler.
- Collagen formation and tissue tightening is unique to Polylactic Acid
- Stimulatory fillers – Polylactic Acid
- Replacement fillers – HA’s, Calcium Hydroxyapatite
How Does the Face Lose Volume?

Structural changes:

• Fat loss
• Bone loss, resorption
• Collagen loss
How Does the Face Lose Volume?

Lifestyle changes:

- Aging
- HIV
- Weight loss
- Extreme athletics
- Trauma
- Smoking
The underlying problem: structural breakdown

• Wrinkles are the result of subdermal processes

Age 25

Age 45 (photo digitally aged)

• Redistribution and/or loss of facial fat and collagen lead to decreased volume\textsuperscript{1,2}
  – Temporal, malar, suborbital, and buccal fat pads\textsuperscript{3}
  – Multiple facial areas affected, including cheeks, temples, and nasolabial folds

• Volume loss begins early with lost collagen and fat
• Changes in bony facial skeleton also lead to altered appearance\textsuperscript{4}
• Breakdown leads to wrinkles, folds, and lines on the surface

Consult

• Patients see advertisements, but don’t really know what they need.

• Hand the patient a mirror and ask them what bothers them.

• Assess the degree of damage, amount of improvement expected, timeline for improvement and budget.

• Come up with a plan.
Sculptra

- Examine and study face
- Where is volume loss obvious
- Mark off face
- Explain results will be gradual
- Several treatments will be needed
- Ask patient to bring photos from 10 to 20 years ago
Adverse Events

• Avoid:
  Lip-vermilion
  1 cm above lip
  Keloid formers

• Inject subcutaneous supraperiosteal

• Allow enough time between injections

• Use adequate dilution
Technique

- Reconstitution
- 7 cc bacteriostatic water
- Mix at least 24 hours beforehand
- 72 hours is better
- Vial can stand for several weeks
- We add 1.5 cc of 2% lidocaine just before use
- Our final dilution is 8.5 cc
Technique

• Choice of syringe size and needles
• We use 3 cc luer lock syringe
• We use 25 gauge needles
• Needle lengths used are 1 ½ “ and 1 “
• 18 gauge needle is used to draw up the Polylactic Acid
Pre-Treatment Care

- DC Asprin, motrin, fish oil, vitamin E.
- Arnica montana two days before, day of and day after may reduce bruising.
- Eat pineapple two weeks before procedure.
- Make sure patient understands they may bruise.
- Application of topical anesthetic.
Treatment

- Mapping
- Tray
- Assistant
- Massage
- Patient Instructions
Mapping
54 Year Old – 3 Treatments – 2 Vials Each
57 Year Old – 3 Treatments, 2 Vials Each
70 Year Old - 4 Treatments - 2 Vials Each
56 Year Old – 3 Treatments – 2 Vials Each
Immediate Post Treatment – 1/19/16
Immediate Post Treatment – 1/19/16
Tray
Post Treatment

• Massage
• Ice
• We instruct patient to ice that day
• Start massaging the next day
• 3 times per day / 5 minutes / for 1 week
• Concealer may be applied immediately afterwards if bruising is noted
• Glo or Dermablend
My Observations

• Never over correct
• Be conservative in younger patients
• More leeway in older patients
• You will use more product in older patients
• Harder to over correct in older patients.
• Younger people heal faster and they will usually have a more robust collagen response.
Our Practice

• We treat at 1 to 2 month intervals.
• We tell patients 3 treatments, 1 to 3 vials each.
• Expect a nice result in 6 months from starting.
• Lasts 25 months (really more).
PLLA 2 vial/session, 2 sessions

34 Years Old. Total 1 Vial. (½ Vial Per Treatment). 2 Years After Treatment.
40 Years Old. Total 1 Vial. (1/2 Vial Per Treatment). 2 Years After Treatment.
43 Years Old. Total 1.5 vials. (3/4 Vial Per Treatment). 1 Year After Treatment.
42 Years Old. 1 ½ Vials. 2 Months After Treatment.
49 Years Old. Total 1.5 Vials. (3/4 Vial Per Treatment). 9 Months After Treatment.
54 Years Old. Total 4.5 Vials. 1 Year After Last Treatment.
63 Years Old. Total 6 Vials. (2 Vials Per Treatment). 3 Months After Last Treatment.
68 Years Old. Total 6 Vials. (2 Vials Per Treatment). 3 Months After Last Treatment.
Avoiding Clogging

• Mix at least 24 to 72 hours before hand.
• Refrigerate after 72 hours.
• Don’t shake bottle to mix product after you add lidocaine.
• Turn and rotate to suspend material.
• Have assistant draw up syringe and hand it to you.
A Unique Product

• There is nothing that can do what Polylactic Acid can do.
• It is a very long-lasting product so it has to be thought out and administered properly.
• Most adverse effects are due to poor technique or inadequate dilution.
• You can restore youth but you can also change a face.
Other Unique Treatments

- Silicone
- Deoxycholic acid
- Calcium Hydroxyapatite
Silicone

- Silikon 1000 which is approved for ophthalmic use, is used off label in dermatology.
- Injections to scars and lips.
- Tuberculin syringe with micro-droplet technique.
- Usually requires 2 to 3 treatment sessions, 6 to 8 weeks apart.
Calcium Hydroxyapatite

• Is now approved for the face and hands.
• It is available with and without lidocaine.
• I use the product with lidocaine for the face and the one without for the hands.
• I mix the plain calcium hydroxyapatite with 1.5 cc of 2% lidocaine. This creates a thinner product and is easier to massage in the hands.
Deoxycholic Acid

• This has recently been approved.
• It is used to treat the submental fat in the neck.
• It requires several treatments.
• It causes a lot of swelling for a few days.
Neuromodulators

• There are currently 3 available in the United States.
• They are approved for the glabella area, crows feet and hyperhidrosis.
• There are many other uses on the face such as forehead wrinkles, lines around the lip, lifting the corners of the mouth, just to name a few.
Hyaluronic Acid Fillers

• These are the most popular fillers used.
• They are the filler to start learning with.
• The results are immediate.
• They can be used in many areas where the other fillers we’ve discussed should not be used such as the lips, tear troughs.
• The effect can be reversed by injecting Hyaluronidase.
Safety Items

• The following should be available if you’re using fillers:
  – Hyaluronidase
  – Nitropaste
  – Aspirin
  – Prednisone
Thank You

- Thank you for your time and attention.

- Please feel free to contact me if you have further questions.