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Treating Nasolabial Folds

Mr Dalvi Humzah presents his new trademarked protocol for improving the nasolabial folds using HA dermal filler

Treating the nasolabial folds is often regarded as a foundation for aesthetic practitioners. This is because many patients who present to clinic will initially request treatment of this area and it is therefore often the concern that practitioners first start treating.

There are many pitfalls with the traditional direct linear or subcutaneous infiltration with injectable implants; from the straightforward bruising to possible vascular occlusion resulting in alar necrosis, other areas of vascular occlusion and visual loss.[1] This is mainly due to the variable vascular arrangement in the subcutaneous tissue in this area. As well as this, long-term filling or over-filling in this area can result in an unnatural convex perioral appearance.[2]

The MD-Lift is a trademarked protocol, meaning if other practitioners wish to market this to their patients they need to seek approval. It is designed to correct the anatomical age-related changes that result in the nasolabial folds, producing a natural result and reduce the possibility of serious vascular complications.

This is an advanced injection technique and the practitioner should be specifically trained in the placement of injectable implants into these specific anatomical areas, before attempting to administer treatment.

Nasolabial folds and ageing

The nasolabial folds are often seen as the first sign of ageing; initially starting as a linear crease which, with age, progresses to deeper wrinkles and well-defined folds.[3] The cause of the nasolabial fold is now considered as multifactorial and involves changes in the skin, soft tissue, ligaments, skeletal and gravitational effects.[4-6]

In principle, the nasolabial fold forms because of a change in the muscle bundles that run across this region and atrophic skin changes with age result in the initial crease. The 'true ligament' in this area (buccal-maxillary retaining ligament) defines the fold and subsequent weakening of the ligament. Loss of the medial deep fat pad and maxillary recession results in a medial-inferior descent of the superficial nasolabial fat pad. These changes have been postulated to cause the appearance of the nasolabial fold.[7]

Aims of the MD-Lift

The MD-Lift was developed as a way to address the nasolabial folds without injecting directly into them. It came about following observations that the deep fat compartments support the superficial fat compartments and that loss of volume in these deep compartments results in changes to facial volume and shape.[6] When treating the nasolabial fold with the MD-Lift, two medial deep components are targeted. These are the deep medial fat compartment and the deep pyriform space (Ristow's space).

Specifically, injections into the deep medial fat compartment appears to efface the nasolabial fold.[7]

The deep medial fat compartment lies deep to the superficial compartments of the mid-face, under the medial lip elevators and is medial to the zygomaticus major. Injections into this compartment will provide medial projection and elevation of the superficial fat compartments and subsequent effacement of the nasolabial fold.[7]

The deep pyriform space is a midfacial space which can be volumised to counteract the maxillary recession, which occurs with age. This space has not previously been addressed as an area that could be volumised using injectable implants until its recent description in literature.[8]

When volumised, the Ristow's space will also project and elevate the superficial medial fat compartment (nasolabial fat). It provides volume and support to the sub-alar triangle that represents the roof of the nasolabial fold.

The most important clinical and anatomical aspect to understand with both the deep medial fat and the deep pyriform space is that the position of the angular artery is in the superficial compartment. Therefore, injection in the pre-periosteal layer or into the deep medial fat is relatively safe with a low risk of vascular compromise. The superficial layer overlying the deep pyriform space also has the alar artery running in this tissue, hence deep injections are mandatory here.[9]

MD-Lift technique

The patient is initially assessed using a validated grading system (I use the Merz Facial Grading Scale), photographed and taken through the consent process, which includes a cooling-off period. The facial skin is then cleaned thoroughly with a proprietary antiseptic. As a medical aesthetic practitioner, adequate aseptic procedures should be followed – hand cleaning, 'bare below the elbows', clinical attire and gloves. A suitable clinical environment is necessary for these injectable implant procedures.

During the treatment, it is imperative that the area is kept clean and unnecessary contamination of the cannula is avoided, such as touching of the cannula or hair contact.

At all times the practitioner should be aware of the pertinent anatomy, specifically the position of the infraorbital, facial, angular and alar arteries in relation to the cannula tip.

A high cohesive hyaluronic acid that has a high G prime should be chosen for this

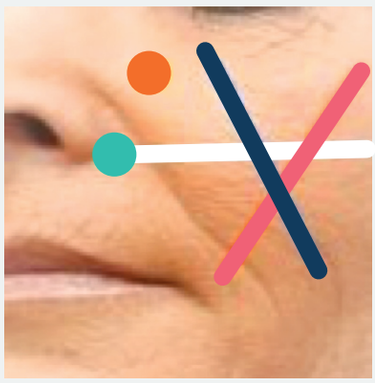

Figure 1

Markings for the MD-Lift

Pink line: Zygomaticus major

Blue line: Nasojugal groove

White line: Alar tragal line

Orange dot: Position of deep medial fat pad

Green dot: Deep pyriform space

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Figure 2: A 40-year-old female patient pre and post injection using the MD-Lift. Injection sites are outlined in the before image, while after shows effacement of nasolabial fold.

protocol. This is important as the product needs to have the ability to provide lift and projection from the deep tissues; as well as the capacity to remain in place after dynamic movement of the soft tissues.

Preferably, this product should be injected with a cannula to reduce the risk of any inadvertent vascular injury. A single entry point is selected medial to the zygomaticus major attachment on the zygoma; the entry point may be anaesthetised prior to puncture if desired. A suitable cannula (no smaller than a 25 gauge) is used. I recommend a 25 gauge 38mm cannula for those new to cannula use, or a 25 gauge 50mm once practitioners are more adept with cannula use (**Figure 1**). From this entry point the cannula is manoeuvred onto the pre-periosteal layer towards the deep medial fat pad. This is visualised as an area bounded medially where the nasal bone joins the maxilla, superiorly the medial canthus, laterally the nasojugal grove (lateral margin of the nasolabial fat pad) and inferiorly the alar tragal line. The cannula is advanced gradually and then slides along the pre-periosteal layer to the desired site of injection. The cannula is placed into the deep layer at this point where the nasal bone joins the maxilla; this is the area of the deep medial fat pad. The product is injected until anterior movement of the nasolabial fat pad is observed (amount ranging from 0.1-0.4ml depending on the patient). The cannula is then withdrawn into the superficial compartment and redirected deep towards the base of the alar (deep pyriform space). At this point the product is injected while the sub alar triangle is observed for effacement. This typically requires 0.2-0.3ml; the effacement is seen immediately and should not be over corrected. Finally, if any skin creases remain – often inferior to the alar triangle – these can most effectively be treated using an intradermal 'superficial blanching technique'. In this technique, a 30 gauge needle is inserted as tangentially into the skin as possible (at an angle of approximately 10 degrees) in order to guarantee intradermal placement of a cohesive polydensified matrix.[10] This will reduce the risk of vascular compromise due to the variability of the facial artery in this area.[11] Once concluded, the injection site is cleaned and 'sealed' with a polymer sealant to reduce the risks of contamination or infection. This allows the patient to be able to apply makeup immediately following this procedure.

> In principle, the nasolabial fold forms because of a change in the muscle bundles that run across this region and atrophic skin changes with age result in the initial crease

Outcome

The MD-Lift effaces the nasolabial fold in a natural manner and produces a one to two point improvement in the area. The main result and aim is for a 'natural appearance' of the nasolabial area that has a normal dynamic movement (**Figure 2**).

Conclusion

The MD-Lift is a specific advanced injection technique that addresses the anatomical changes with ageing. This technique aims to volumise the deep medial fat pad and the deep pyriform space to address the maxillary recession that causes the ptosis of the nasolabial fat pads and the resulting nasolabial fold. Using a single entry point and cannula technique, the two deep medial areas can be treated to reduce the nasolabial folds. The result that is achieved is a natural-looking nasolabial area that responds to the dynamic movements of the perioral region. At all points of this procedure, the practitioner should be aware of the anatomical layers and structures in this area as the treatment is performed. Specific training in treating these specific areas is highly recommended.

Mr Dalvi Humzah is a consultant plastic surgeon and delivers his clinical practice through PD Surgery in the West Midlands. He is also director of the award-winning Dalvi Humzah Aesthetic Training and clinical director of Derma-Seal Ltd. He has wide experience in teaching and training nationally and internationally.

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