

Facial Beautification and Rejuvenation with Injectables: My Preferred Approach



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KEYWORDS

- Younger asian patients • Asian facial characteristics • Oval facial shape
- Preserve esthetic individuality • Customized approach • Combined treatment modalities

KEY POINTS

- Combined use of hyaluronic acid and botulinum toxin is more frequent in young Asian patients.
- Treatment target in Asians is to aim at an oval, small and narrow looking face with well projected midline structures and medial cheeks.
- Customized approach to create a natural and safe result while maintaining discrete Asian ethnic features and esthetic individuality.
- Combined treatment modalities for volume loss and tissue migration.

INTRODUCTION

The esthetic market in Asia has been blooming for the past 15 years. In line with the global decrease in average age for noninvasive cosmetic procedures, esthetic patients in Asia are younger than Western world and approximately 50% of them are aged 18 to 40 years.¹ The dense population with increasing disposable incomes, the growing awareness of treatment options available, increasing social acceptability and accessibility of noninvasive cosmetic enhancements, and inclination toward beauty and looking young are the main propelling factors in the market growth in the region.

Botulinum toxin and hyaluronic acid (HA) injections, either alone or in combination, are used extensively for beautification and rejuvenation among Asians. Just like the Western countries, botulinum toxin injection is the top of noninvasive cosmetic procedure in Asia. More younger Asian patients are having botulinum toxin injections for wrinkle removal especially on upper face expressive lines as wrinkles are less tolerable to them. As it is common among Asians to have a heavy and short lower face, botulinum toxin injection is

frequently used to improve facial shape by slimming down the strong masseters and to relax the hyperactive mentalis muscle caused by the poor structural support from a retruded chin.^{2,3} Body contouring like leg contouring and trapezius slimming by injecting botulinum toxin are popular in East Asia as well.^{4,5} Apart from the intramuscular injection, intradermal injection of microdroplet of botulinum toxin is common in Asia for a more subtle result in wrinkle removing. In addition, it can also enhance skin quality by improving the skin tone, shrinking down of pore size, and reducing sebum production and erythema.^{6,7}

Once again, more younger Asian patients are having HA injections to deal with their facial structural issues. HA is the workhorse to shape the esthetically undesirable flat, wide and short Asian face into a more attractive oval, well projected, and balanced face. Hence, more young Asian patients are having HA injections to enhance the projection of central facial features including forehead, glabella, nose, chin, and medial cheeks for beautification. In mature Asians, it is more challenging to address the undesirable facial structural deficiencies compounded by skin atrophy, volume depletion, and tissue migration caused by aging.

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Under such circumstance, combination therapy of HA injection with other treatment modalities like botulinum toxin injection, radiofrequency, high intensity focused ultrasound and thread will be a better option for an optimal rejuvenation. Furthermore, combined injection of HA and botulinum toxin in highly mobile areas like forehead and glabella, or area like chin with hyperactive mentalis helps to reduce muscle activity and hence facilitates tissue integration of HA and perhaps prolong the duration of the filler.

ESTHETIC GOALS FOR ASIAN PATIENTS

Different people have different definitions of beauty and attractiveness. Although some physicians try to quantify and standardize beauty by anthropometric measurements and proportions, others respect the differences and similarities between beauties of all races. One gender-specific global similarity of beauty in women is facial shape.⁸ An oval facial shape represents femininity, youthfulness, and attractiveness. It runs a smooth course from the forehead to the temples, posterior cheeks, mandibular angles, jawlines to the chin. In aging process, this youthful attractive oval shape will gradually become more rectangular with broken lines and angulations. Unfortunately, Asians typically have wide bitemporal, bizygomatic, and bigonial width with short vertical facial height and flat or even concave faces from profile view (**Fig. 1**).^{9,10} All these characteristics end up in a wide, short and flat face that is masculine, aged, tense and esthetically unappealing. Even worse when these inherent facial deficiencies aggravated by the structural and morphological changes in aging process with loss of volume and sagging. Hence, the goals of beautification and rejuvenation with injectables for both young and mature Asians are to create an oval facial shape, to increase the facial height and three-dimensionality. Beware of applying the golden ratio or phi proportion principles when injecting Asians which sometimes can end up with ridiculous results (**Fig. 2**). In general, the ultimate target in treating Asians is to aim at a balanced, small, and narrow-looking face with well-projected midline structures and medial cheeks while preserving their discrete Asian ethnic features and esthetic individuality. Most of these are achievable by injectables without any downtime.

INJECTION PRINCIPLE AND STRATEGY

It is not easy to deliver a promising result by injectables as they appear to be. The usual problem among new injectors is that they are too eager to

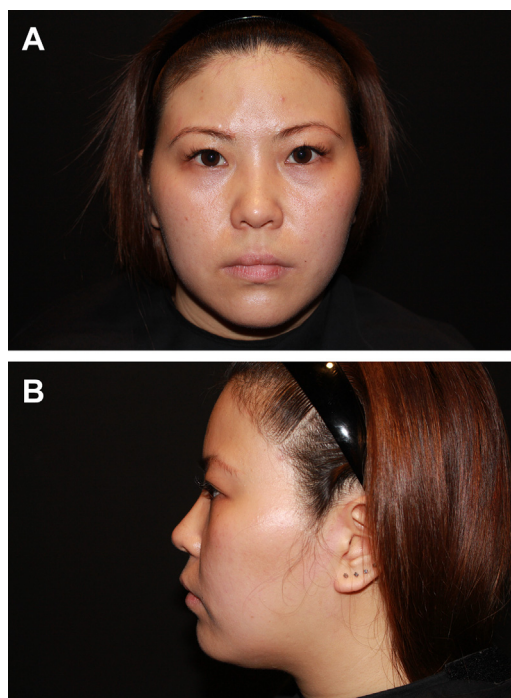


Fig. 1. (A) An Asian woman illustrating the typical morphological features with a short and wide face. (B) Lateral view revealing poorly projected nose, medial maxilla and chin resulting in a flat face.

inject. Injectables should be regarded as serious as all other medical procedures. Likewise, it should be started by taking a comprehensive medical history, paying particular attention to history that may jeopardize the result or give rise to adverse events like record of allergy to injectables, previous cosmetic surgery over the injection area, autoimmune disease, active inflammation or infection at or near the injection site. Spend adequate time in patient communication and expectation management. A thorough holistic total facial assessment, with and without facial animation, is a must before making a customized treatment plan. As treatment of one area can have impact on other areas, a list of treatment priority is needed. Frequently, combined treatment modalities is required to achieve the optimal result that may be better to deliver in different treatment sessions to avoid unexpected side effects and downtime.

As an oval facial shape is salient in beautification and rejuvenation, HA fillers are frequently used to remove the depression or shadow over forehead, temples and preauricular areas in Asians. This is often conjoined with lower face width reduction by slimming down the masseters with botulinum toxin. The retruded chin is enhanced by HA and

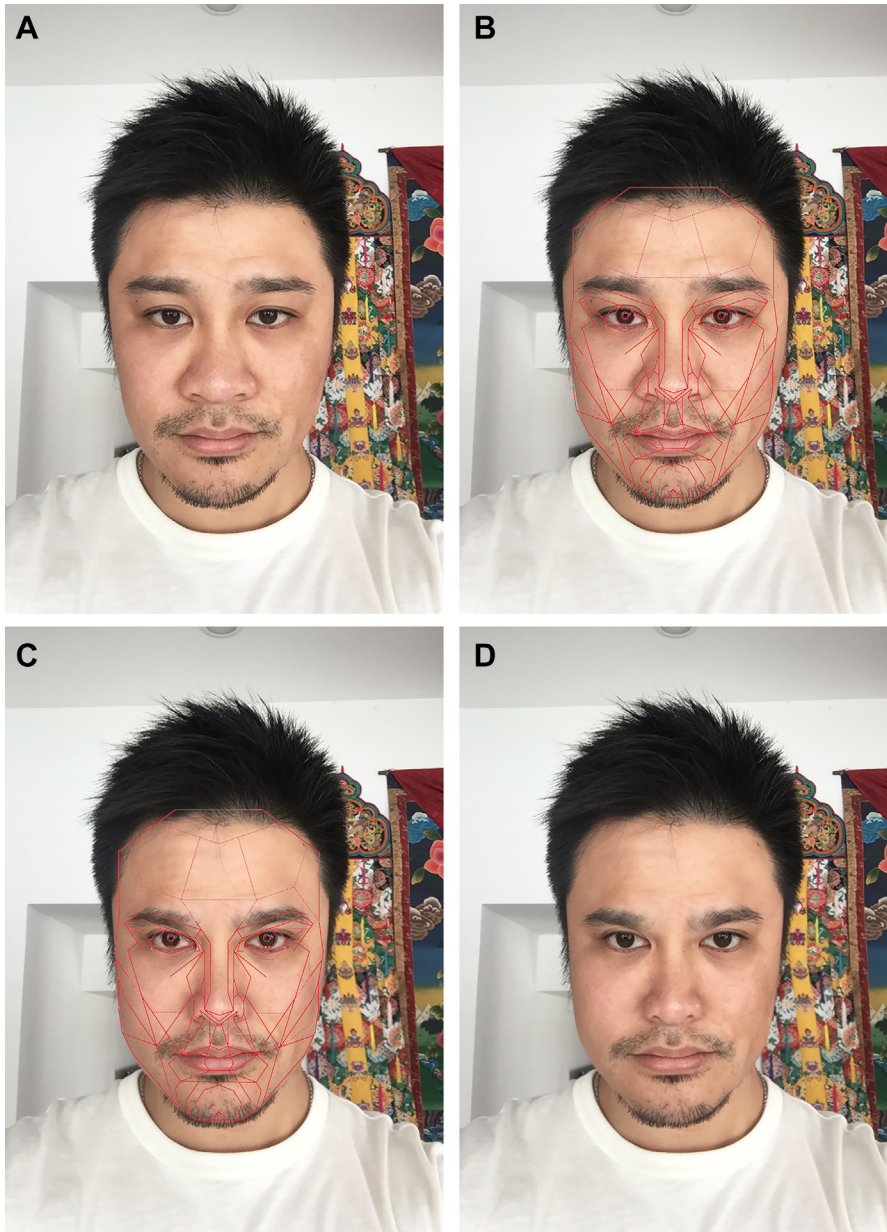


Fig. 2. (A), (B), (C) Dr Siew Tuck Wah MD applying the golden ratio portion on his face for rejuvenation by using Photoshop. (D) An unnatural result which was deviated from his ethnic origin with loss of his unique facial characteristics. (Courtesy of Siew Tuck Wah, MD, Singapore, SG.)

may sometimes combine with botulinum toxin to relax the hyperactive mentalis. In addition to contributing an oval facial shape, the augmented chin also improves the facial height and projection. Facial three-dimensionality can be further improved by HA fillers injection to glabella, nose, and medial cheeks in most circumstances. With better-projected nose and medial cheeks, and the removal of hollow over temples and preauricular regions, this will create a visual perception of a

narrower midface. All these HA fillers should be injected either supraosteally or in deep fat compartment in order to provide the structural support for facial contouring.

INJECTION TECHNIQUES

Procedure is performed in clinic setting with patient in supine position for marking and injection under good lighting (**Fig. 3**). Apply topical

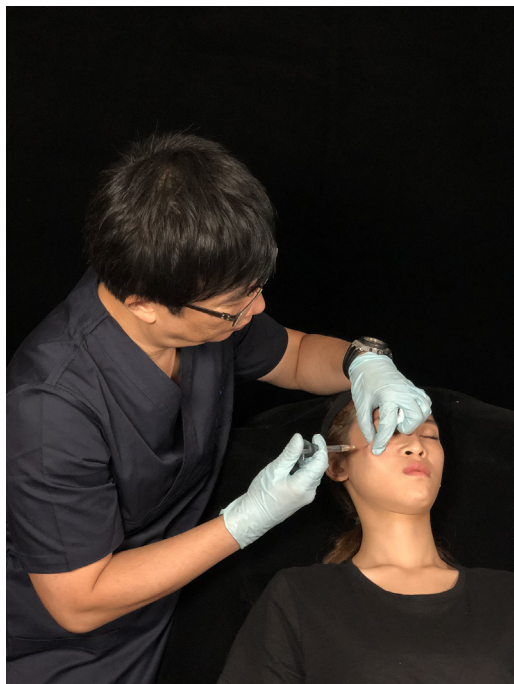


Fig. 3. Injection is performed in clinic setting with patient in supine position under good lighting. Use both hands when injecting, with the non-injecting hand guiding the needle and product into the tissue without spreading.

anesthetic cream in the patient who is sensitive to pain. Otherwise, simple ice pack application can offer reasonable numbing effect and also reduce the chance of bruising. Cleanse the injection area with 0.05% chlorhexidine thoroughly, avoid using agent like alcohol that may cause unnecessary skin irritation. Whether to use a needle or a cannula depends on personal preference and the area to be injected. Injection should be done slowly with low injection force and the smallest amount of product necessary. Use both hands when injecting, with the noninjecting hand guiding and controlling the needle or cannula and product into the desirable tissue plane without spreading. Small boluses injection, limited to 0.1 mL per bolus, should be used when injecting deep into the periosteum or deep fat compartments, whereas linear threading technique is preferred when injecting into the superficial tissue layer. Stop injecting if there is excessive pain, especially pain outside injection area, and injection site blanching that may suggest intravascular event. Gentle massaging and molding sometimes are required to smooth out the uneven contour after injection. Finally, apply antibiotic cream to those needle entry points to finish the procedure.

POSTOPERATIVE CARE AND EXPECTED OUTCOME

Injectables are regarded as lunchtime procedures without downtime. However, the patient is advised not to wear makeup and avoid any form of massage over the injected area for 24 h. Strenuous exercise and alcohol consumption are generally not recommended on the day of injection. Hot and spicy food should be avoided for 48 h after injection of the lips to prevent overwhelming swelling. Gentle cleansing over the injected site is allowed if needed. Mild swelling over the injected area is common but in general what you see is what you get.

MANAGEMENT OF COMPLICATIONS

Although the majority of HA filler complications like swelling and bruising are mild and self-limiting, other less common complications including irregularity, nodules, and hypersensitivity reaction usually resolve after hyaluronidase and anti-inflammatory treatments. The most serious intravascular complication can lead to tissue necrosis, visual loss, and even cerebral infarct, and hence warrants more detailed discussion. Although early recognition and prompt intervention of a vascular occlusion can reduce the long-term consequences significantly, prevention is always better than cure. Therefore, it is essential to have a sound knowledge of facial vascular anatomy before injection. However, intravascular injection can occur even at the hands of experienced injectors. Fortunately, uneventful healing was the usual outcome after immediate hyaluronidase treatment on diagnosis, with 86% being resolved within 14 days and only 7% suffered moderate scarring requiring surface treatments.¹¹ Measures to minimize intravascular injection include low-pressure small bolus injection, keep the needle moving while injecting, and stop injection if there is severe pain, especially pain outside injection site, or blanching over injection area. There are high-risk zones and low-risk zones for vascular occlusion, but there is no risk-free zone. Because of anatomical variations and distorted anatomy from previous filler injection or surgery, intravascular injection cannot be ruled out completely and ultrasound assistance may play a role in improving the safety of HA injection.¹² There are lot of controversies about aspiration before each injection but if one practices aspiration, it should be done with proper needle size and aspiration duration.^{13,14} Furthermore, a negative aspiration does not mean the needle tip is not inside a blood vessel and may offer a false sense of security. Another

controversy perhaps, is a blunt cannula has less intravascular complications than a needle. Although some experts recommend blunt cannulas,¹⁵ one published article revealed that blunt cannulas cause the majority of severe vascular complications in HA injection.¹⁶

SUBSEQUENT PROCEDURES

Injectable are often combined with other treatment modalities such as thread lift and energy-based devices in one treatment session without compromising the results. It is recommended not to inject more than 4-mL HA filler for a hollow face in one session to avoid excessive and prolonged swelling and discomfort. Touch-ups can be done in 2 weeks. HA fillers nowadays can last 12 to 18 months and therefore injection for maintenance is commonly performed on yearly basis.

CASE DEMONSTRATIONS

Case 1

A 29-year-old Asian woman with boxy forehead, flat medial cheeks, and poorly projected midline facial structures (**Fig. 4A**). She had HA injection of 1 mL to forehead, 0.4 mL to nasal dorsum, 0.3 mL to columella, 1 mL to medial cheeks, and 0.8 mL to chin without any downtime. She looked more balanced with improved facial shape and three-dimensionality while preserving her discrete Asian ethnic feature and esthetic individuality immediately after the injection (**Fig. 4B**).

Case 2

A 35-year-old Asian lady with high cheekbones, a wide and flat midface (**Fig. 5A**). Result of a smaller facial appearance with narrower looking midface 8 weeks after uneventful HA injection of 1 mL to temples, 1.2 mL to preauricular regions, 0.5 mL to nasal dorsum, 0.8 mL to medial cheeks, and 1 mL to chin (**Fig. 5B**). There was an additional improvement of under-eye shadow after HA enhancement of medial cheeks.

DISCUSSION

The attitude of injection should be conservative, under-correct rather than overfill, respect and preserve patient's anatomical structure, and inject safely. Most of the unnatural results are caused by unawareness of esthetic ideal, poor patient assessment, inappropriate injection techniques like large bolus injection and placement of the product in wrong tissue layer, wrong choice of product, and overfilling. Repeated large-volume HA injections will not only end up in overfilling with distorted facial features and permanently



Fig. 4. (A) A young Asian woman with boxy forehead, flat medial cheeks and midline structures. (B) Immediately after HA injection to forehead, nasal dorsum, columella, medial cheeks and chin showing improved facial shape and three-dimensionality while preserving her discrete Asian ethnic feature and esthetic individuality.

damaged the normal anatomical structures, but also increase the risk of filler adverse events. Aging process involves multiple facial layers and it is the combination of bone resorption, atrophy of deep fat compartments, and malpositioning of superficial fat compartments that contribute to a hollow face.¹⁷ The problem of volume-based injection (VBI) is to solve the issue of the hollow face resulting from volume loss and tissue malpositioning by volumization alone. It involves repeated large bolus of big volume injection to replenish the depleted volume and lift up the ptotic tissue. According to VBI, the more volume being injected, the more projection and lifting will be achieved. This kind of injection will not only end up in overfilling with a distorted appearance, but also carry higher risk of vascular occlusion, product migration, and delayed inflammatory hypersensitivity reaction.

The principle of tissue-targeted filling (TTF) is to use combined treatment approach to tackle the pathophysiological changes of aging in volume loss and tissue migration. It is a rheology-based injection concept focusing on injecting a smaller amount of filler, which is resilient to repeated facial

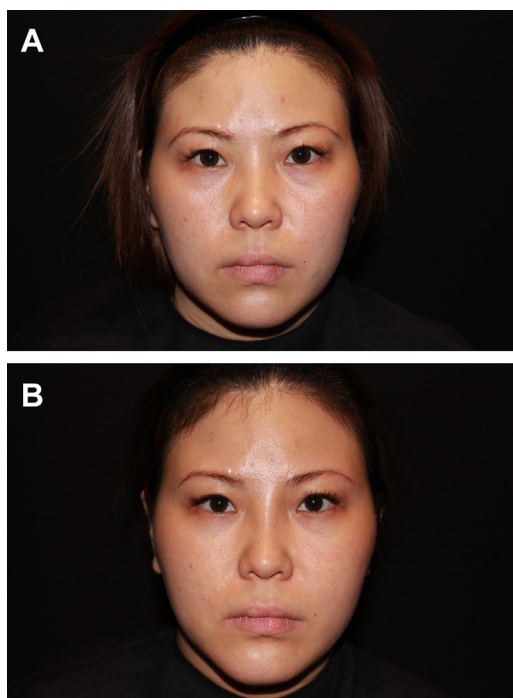


Fig. 5. Result of a narrower midface appearance after removal of hollow over temples and preauricular regions with enhanced projection of nose and medial cheeks. Note the additional improvement of under-eye shadow after injection of medial cheeks. (A) Before, (B) after treatment.

movements, at the right tissue layer with the filler rheology similar to the tissue that is being replaced. In other words, the philosophy of TTF is to replace “the like with the like” in volume depletion. TTF is often combined with other treatment modalities such as thread and energy-based devices like microfocused ultrasound for tissue repositioning. Biostimulants like calcium hydroxyapatite and poly-L-lactic-acid (PLLA) for neocollagenesis and skin quality improvement, lasers, and intense pulsed light for skin pigmentation and radiance can also be incorporated into the treatment plan. This holistic approach gives rise to a more natural result and avoids the problems of VBI including disproportionate face, overfilled appearance, surface irregularity, and lumpiness.

Although the injection principle and technique in Asians are basically the same, the treatment strategies and treatment endpoints are quite different from treating Caucasians as the facial structures, aging process, esthetic ideal, and concept of beauty are not the same. All esthetic procedures should be customized in regard to gender, age, ethnicity, culture background, medical history, and patient’s desire to achieve a safe and balanced result while maintaining esthetic

individuality and discrete ethnic features. Applying one standardized treatment approach for all will only end up in poor outcomes and unhappy patients.

SUMMARY

An oval facial shape with good projection and proportion is regarded as the ideal attractive youthful face across all nations. Treating mature Asians with the hollow face is challenging for a physician who needs to combine sound anatomical knowledge, detailed patient assessment with a holistic treatment plan, understanding of Asian facial structures and aging process, artistic sense, safety consideration, proper injection technique, and right product selection for a safe and promising result. Knowing the limitation of injectables, avoid solving all problems with injectables only or using a single standard treatment protocol on different faces. Combined holistic treatment approach is the benchmark of current esthetic medicine.

CLINICS CARE POINTS

- Beautification and rejuvenation with injectables in Asians can be challenging.
- Achieving an oval facial shape and enhancing the three-dimensionality is the ultimate treatment goal.
- Combined treatment approach is the standard in dealing with various problems of structural deficiencies and signs of aging.

DISCLOSURE

The author has no financial interest to declare in relation to the drugs, devices, and products mentioned in this article.

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