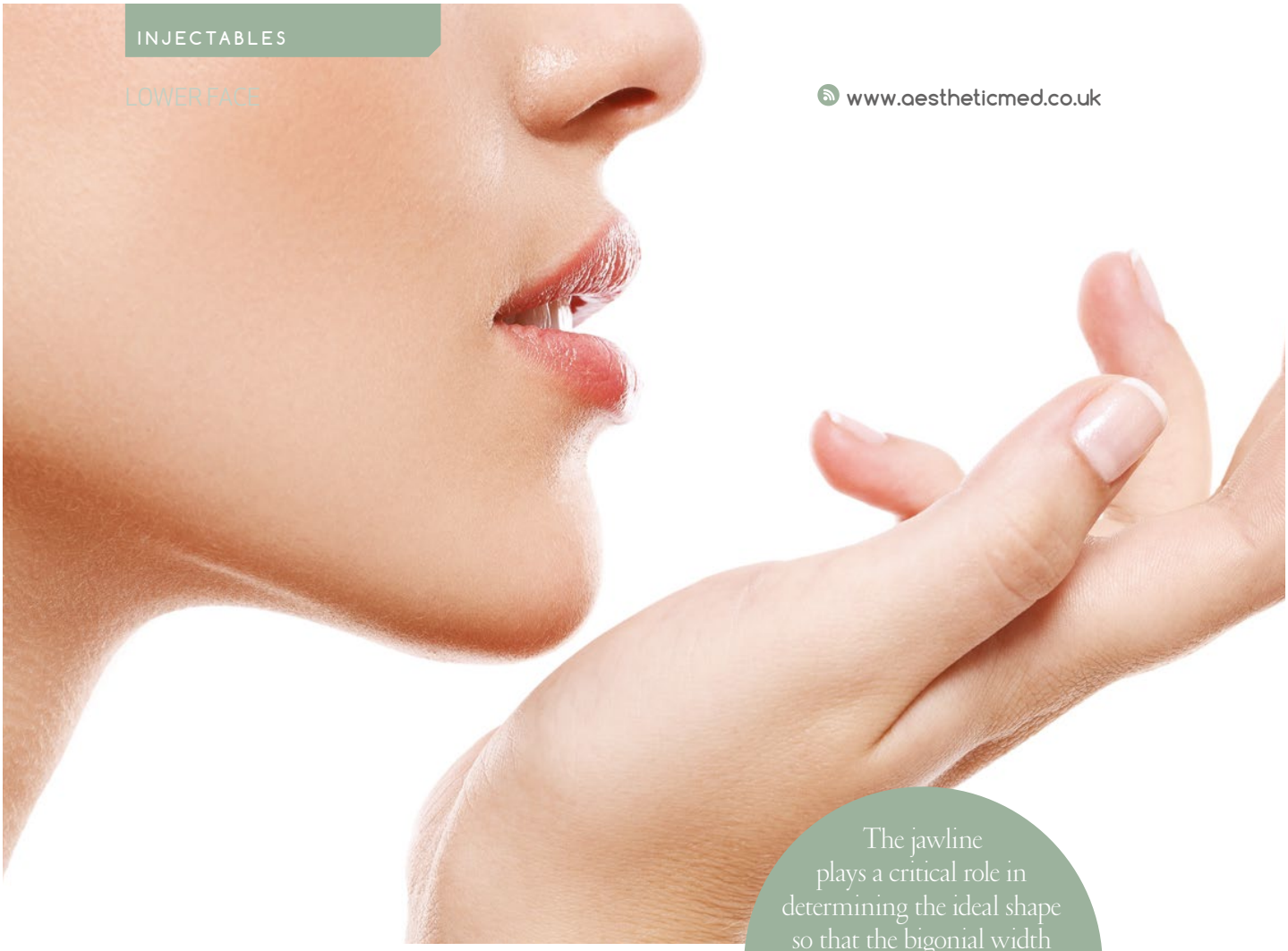

The jawline plays a critical role in determining the ideal shape so that the bigonial width should be approximately 30% less than the bizygomatic dimension (1.3:1 for women and 1.35:1 for men)

Area 51

Dr Steven Harris on the obscure post-jowl

In treating the jawline, especially with dermal (HA) fillers, much focus has been placed on the chin, the pre-jowl area, the jowl and the angle of the mandible (gonial angle), in order to help restore facial shape and proportions. However, an essential part of the jawline, the obscure post-jowl "area 51 of the face", is often considered too dangerous to treat, or simply overlooked.

Historically, there has been a shift in focus involving non-invasive treatments from specific areas such as the frown, nasolabials and marionettes to a more holistic approach. Present techniques involving botulinum toxin type A (BTA) and HA fillers aim to restore facial shape and proportions rather than just treat facial lines and wrinkles.

The ideal facial shape is seen as oval, but may be heart-shaped in women, or more square in men. The jawline plays a critical role in determining the ideal shape so that the bigonial width should be approximately 30% less than the bizygomatic dimension (1.3:1 for women and 1.35:1 for men).[1]

A narrowing of the bigonial width may be achieved by injecting BTA into the masseter muscles; a widening of the bigonial width may involve deep filler injections onto the gonial angle. Interestingly, the gonial angle decreases with age from around 135-150 degrees at birth to 120-140 degrees in old age. The angle has been used as a forensic tool for gender determination, but recent studies have failed to demonstrate any significant sex difference in humans.[2,3]

The jawline may be defined as a line running along the inferior border of the mandible, from the mental protuberance (anteriorly) to the body, angle and ramus of the mandible (posteriorly). It is the site of a number of muscle attachments including the masseter and depressor muscles (Figure 1) and is the point of cross over by the all-important facial artery (1cm anterior to masseter).

During the ageing process, the well-defined jawline is disrupted by both soft tissue and bony changes. Atrophy of the skin and loss of facial fat coupled with gravity leads to soft tissue ptosis. The underlying bony 'scaffolding' is lost through contraction and morphological changes to the face as a whole (Figure 2).[2,3,4]

While the bigonial distance is maintained, the mandible shrinks and the angle of the mandible is increased and

blunted. Malar fat loss and descent lead to formation of the jowls as the areas on either side (pre-jowl and post-jowl) become deficient. The well-defined "L" shape of the mandibular border takes on a poorly defined "W" shape (formed by the jowl, deficient post-jowl and gonial angle). The face as a whole loses its shape and the patient appears sad, tired and "saggy".

Restoration of the jawline may begin with a skin tightening procedure such as CO_2 laser resurfacing or medical needling involving a Dermapen. Non-surgical lifting is probably best achieved with injectables, BTA and HA dermal fillers. Having an intimate understanding of the ageing process is important to help address the source of the problem in order to allow the most effective treatment.

The poorly defined jawline may thus be treated along multiple vectors: superiorly with volume replacement in the mid-face; inferiorly, with BTA injections into depressor muscles in the so called "Nefertiti lift"; anteriorly with deep injections of filler to restore the projection of the chin and the pre-jowl area; posteriorly, with superficial filler injections into the post-jowl area. The gonial angle may also be injected deeply with a filler 1cm diagonally from its apex, the gonium.

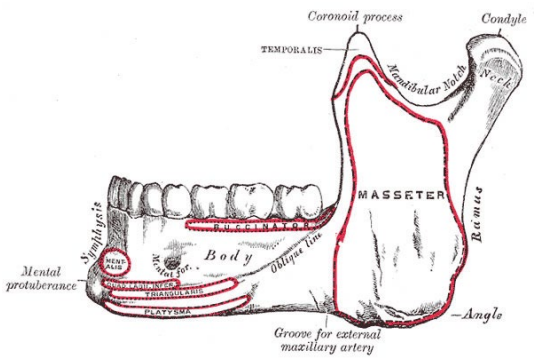

Figure 1: Mandibular Muscle Attachments (Grey's Anatomy)

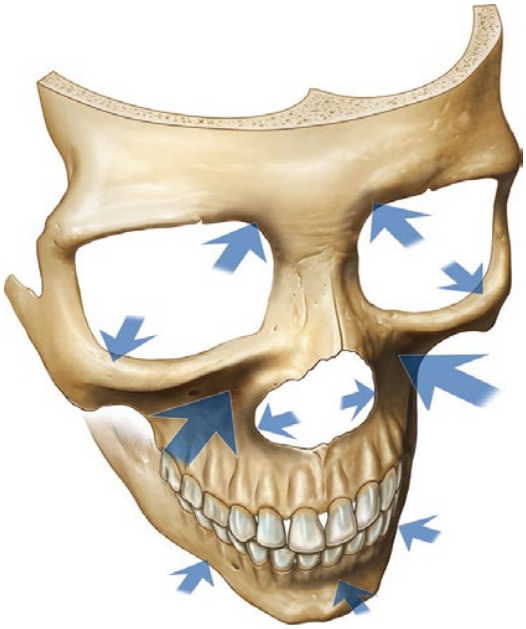

Figure2: Bony changes with age (cerbrovortex.com)

While much attention is given to treating these areas, one area, the post-jowl is often avoided because of the crossing path of the facial artery, or is simply overlooked in the process. The post-jowl may be thought of as the "area 51 of the face" because it is relatively obscure and considered "dangerous". However, the post-jowl forms an essential part of the jawline; restoring this area with superficial injections of filler can help restore the jaw's "L" shape, both safely and effectively.

A number of factors need to be considered when treating the post-jowl area. The patient needs to be provided with all the treatment options and have the time to consider which is most suitable in terms of safety, aesthetic result and financial budget. Treating the post-jowl area may be considered the treatment of choice as it addresses all these points: it is a relatively safe procedure because >

Figure 3: Post-Jowl treatment; Before and Afters (by Dr. Steven Harris)

injecting filler superficially (with a needle, or cannula) avoids the deep running facial artery which hugs the bone as it crosses the border; it fills in the deficiency between the jowl and the gonial angle, lifting the former, thereby restoring the jawline; it uses relatively small amounts of filler (1-2mls) to achieve an aesthetically pleasing result.

It is the author's opinion that in general, treating the post-jowl should be given priority over treating the pre-jowl. The commonly treated pre-jowl may accentuate the jowl itself and make the latter appear heavier; it can change the shape of the face unfavourably producing a more square shape; the definition of the chin may be lost in the process as well. On the other hand, treating the post-jowl has more of a lifting effect on the jowl; it changes the shape of the face favourably toward an oval, or heart shape; it does not interfere with the shape of the chin and may act to define it more.

In treating the post-jowl, it is very important to consider the correct filler. The filler needs to be safe and reversible as in HA fillers; it needs to have good lifting capability as well as moldability; the Juvéderm Vycross range, in particular, Juvéderm Volift, or Juvéderm Voluma are excellent in these regards. Cannulas may be used with a point of insertion above the facial artery, involving anterograde and retrograde injections superficially (in the dermal layer) along the post-jowl area ensuring the product is placed just above the border and not inferiorly. Needles may be used as well with placement of small boluses (0.05-0.1ml) side by side in the dermis of the border. When using a needle, always aspirate, inject slowly and avoid large bolus placement. It is very important to then massage the product between thumb and forefinger against the bony margin of the mandible for the final result (Figure 3). A post-treatment care sheet should be discussed with the patient and given to take home and a two-week review is highly recommended.

In conclusion, the obscure post-jowl area 51 of the face deserves more attention when treating the jawline and restoring facial shape. When performed properly, it is considered a very safe and effective procedure, producing excellent results with relatively small amounts of filler and therefore, very rewarding to both patient and doctor. **AM**

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