**Neck rejuvenation with a multimodal approach: botulinum toxin and hyaluronic acid stable hybrid cooperative complexes**

Combination treatment with botulinum toxin and hyaluronic acid is the standard regimen in facial rejuvenation. However, in rejuvenating the ageing neck a multimodal approach is essential because many factors contribute to the ageing of the neck. In particular there are visible changes to the skin and the platysma muscle.

Based on this background, we treated patients using a combination treatment programme with botulinum toxin type A and a 32mg/ml hyaluronic acid stable hybrid cooperative complexes of high and low molecular weight (Profhilo®) for neck rejuvenation in females. This particular hyaluronic acid complex is thermally crosslinked and is used as a skin remodeling agent rather than a 'filler' compound.

The patients were treated with two interventions in the first session, as follows: 2ml of hyaluronic acid stable hybrid cooperative complexes of high and low molecular weight for restoring skin laxity was injected into the recently developed Neck Bio-Aesthetic Points (10-point injections of 0.2ml) (Figure 1). Botulinum toxin type A was then injected to treat the platysmal bands and horizontal lines using the following protocol: on the platysmal bands (in black) 2U per point was injected every 1-2cm in a relaxed state with a subdermal bolus technique. On the horizontal wrinkles (in red) 1-2U per point was injected every 1-2cm using an intradermal bolus technique (Figure 2).

Patients were treated in a second session one month after the first one with 2ml of Profhilo® for restoring skin laxity with the same injection technique.

**Results**

The patients had continuous, gradual effect with significant clinical improvement of neck ageing after the combined treatment. Following this combination therapy they had greater improvement from baseline than similar patients treated with botulinum toxin type A or the hyaluronic acid stable hybrid cooperative complexes of high and low molecular weight alone (Figure 3).

The treatment was well tolerated and the patients were very satisfied with the overall aesthetic outcome and the duration of the results.

Based on these results, botulinum toxin type A and hyaluronic acid stable hybrid cooperative complexes of high and low molecular weight treatments are effective and safe when used in combination to rejuvenate the neck.