

Spotlight On: Profhilo

Aesthetics investigates the efficacy of IBSA Pharmaceutical's (Farmaceutici Italia) new hyaluronic acid injectable that aims to treat skin laxity without the use of BDDE

What is Profhilo?

"Profhilo is not a mesotherapy product, neither is it a dermal filler," says aesthetic dental practitioner Dr Emma Ravichandran, who was one of the first practitioners in the UK to use the product, having incorporated it into her clinic in February 2016. "Profhilo is a stabilised hyaluronic acid (HA) but without any chemical cross-linking agents – the first injectable of its kind," she explains. Profhilo, distributed by HA Derma, is indicated for the treatment of skin laxity and is free of 1,4-butanediol diglycidyl ether (BDDE) – a viscous liquid, hygroscopic in nature, which links the HA chains to prevent them being broken down by the body.¹ Although cross-linking chemicals, such as BDDE, in small doses in dermal filler has been indicated to be safe,² the BDDE-free concept could be appealing to consumers who are wary of synthetic chemicals being used in products.³

The science behind the product

According to IBSA, the HA is stabilised by a patented thermal process whereby the natural bonds found in high molecular weight (H-HA) break, and new hydrogen bonds are formed between the H-HA and low molecular weight (L-HA). This allows for 32mg of L-HA (80 – 100 kDa) to be combined with 32mg of H-HA (1100 – 1400 kDa), to form stable hybrid complexes (64mg in 2ml). In practice, the L-HA aims to hydrate and stimulate skin, while the H-HA acts as a dermal scaffold in the skin.⁴

In practice

Dr Ravichandran says, "Anyone who presents with signs of skin ageing and is suitable for dermal filler treatment is also suitable for treatment with Profhilo." Usual contraindications include patients with bleeding disorders, immune-compromised patients and those with unrealistic expectations. "The most commonly treated area to date is the submalar and malar area. I use a 25G 1.5 inch cannula subdermally to minimise the risk of bruising or vascular compromise, and also to maximise spread of the product. As a guide, I will use 1ml of the product to cover an area of the skin equal to the area of the patient's hand. Once injected, the product immediately starts spreading due to the high concentration of HA and its cohesive nature."

For use when treating the submalar area, IBSA has developed a protocol called the BAP (Bio Aesthetic Point) Technique, which involves five bolus injections of 0.2ml on each side of the face using a 29G needle (Figure 1). "The injection sites were identified using a selection criteria which aims to minimise risks to blood vessels and nerves and maximise efficacy through diffusion," explains Dr Ravichandran. "This is an extremely effective and simple technique to use for injectors who are not comfortable with the use of cannulas."

Two treatments are recommended four weeks apart, with a follow-up appointment at week eight, to be repeated twice a year for optimal results.

Complications

As with any injectable treatment there are minor risks, including bruising and swelling, as well as infection, allergic reaction, vascular compromise and nerve damage; although IBSA claims these are rare.

Both the company and practitioners who have experience using Profhilo claim there is no real downtime, due to minimal injection points. "From a safety perspective, Profhilo is highly biocompatible, owing to the fact that it is made from natural hyaluronic acid and stabilised without the addition of chemical cross-linking agents," says Dr Ravichandran, adding, "But it's still important as an aesthetic injector to have the protocols to deal with any complications in case they occur."

In vitro study⁵

A study published in *BMC Cell Biology* in 2015 researched the effects of H-HA and L-HA chains of diverse length and a H-HA/L-HA hybrid (0.1 and 1% weight/volume), against a control on skin regeneration. Time-lapse video microscopy in vitro studies indicated that the diverse length HA was capable of restoring the monolayer integrity of HaCat (aneuploid immortal keratinocyte cell line from adult human skin). The hybrid had a faster regeneration rate than the diverse lengths, and, in co-culture scratch tests, wound closure was achieved in half the time of H-HA stimulated cells and 2.5-fold faster than the control. Additionally, type I collagen expression and production were evaluated. Compared to H-HA, L-HA and the control, persistence of a significantly higher expression level at 24 hour for the H-HA/L-HA hybrid was found. The research indicated that, both at high and low concentrations, hybrid complexes performed better than HA alone, thus suggesting their potential as medical devices in aesthetic and regenerative medicine.

Results

Dr Ravichandran says, "After four weeks, my patients have experienced improvement in lines and tightness of their skin. After eight weeks there is a definite lifting and tightening of the skin – it

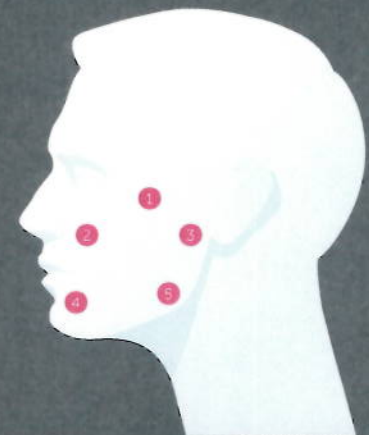


Figure 1. BAP technique



Figure 2. A female patient before and after treatment of the submalar region using Profilo. Images courtesy of Dr Emtina Ravichandran.

is more hydrated and appears more youthful and in better health.” Some of her patients have reported an immediate improvement after treatment. She continues, “I have now completed 20 patients’ preliminary two-step treatments and am delighted with the results I have achieved (Figure 2). Overall, patients can expect increased

firmness, elasticity and an overall improved quality of skin, with the effects lasting up to six months.”

Conclusion

Dr Ravichandran concludes, “Profilo does not create the volumetric lift or volume replacement associated with cross-linked dermal fillers, however, it creates volume in the tissue where it is needed due to its high spreadability. Owing to this characteristic, it is an ideal treatment for challenging areas as well, such as the neck, perioral area, and hands and arms, where we do not see the significant volume loss, but skin has lost elasticity. I often see patients with artificially enhanced cheeks, which is a result of overfilling because the wrinkle ‘just doesn’t go away’. But, in my experience, Profilo has been very effective in correcting this concern.”

REFERENCES

1. Derek Jones, *Injectable Fillers, Enhanced Edition: Principles and Practice*, (2010) Wiley-Blackwell
2. Koenraad De Boulle, A review of the metabolism of 1,4-butanedio diglycidyl ether – crosslinked hyaluronic acid dermal fillers, (2013) <<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4264939/>>
3. Lisette Hilton, *CosmeticSurgeryTimes, Future fillers: Profilo & Belotero Volume*, (2016) <<http://cosmeticsurgerytimes.modernmedicine.com/cosmetic-surgery-times/news/future-fillers-profilo-belotero-volume>>
4. IBSA Derma, *A New Discovery*, (2016) <http://www.ibsaderma.com.ua/en/pdf/Brochure_medico_Profilo_en.pdf>
5. Antonella D’Agostino, *BioMed Central, In vitro analysis of the effects on wound healing of high- and low-molecular weight chains of hyaluronan and their hybrid H-HAAL-HA complexes* (2015) <<http://bmccellbiol.biomedcentral.com/articles/10.1186/s12860-015-0064-6>>

PROFILO®

Thermally stabilised hyaluronic acid for skin remodeling (64mg / 2ml)

- First injectable HA for skin remodeling and treating skin laxity
- First stabilised product without BDDE
- Dramatic improvement in tissue quality, even in challenging areas
- Complementary to other treatments
- Safe, effective, “a true breakthrough” in anti-ageing medicine
- Training with Dr Irfan Mian and Dr Ravi Jain available

Courtesy of Dr Abascal

*Courtesy of Gabriel Ghinea

... exclusive UK distributor of IBSA Italia's aesthetic products

www.ha-derma.co.uk / info@ha-derma.co.uk

0208 455 48 96