The potpourri approach to hyaluronic acid filler injections

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ABSTRACT
There is an ever-expanding range of hyaluronic acid fillers with varying physical characteristics available to cosmetic dermatologists. These fillers are commercially packaged in syringes of approximately 1 mL (range 0.5–2 mL) volume. Filler injectors are currently qualitatively and quantitatively restricted to fillers packaged in ready-to-go syringes. Patients often present for pan-facial rejuvenation requiring varying amounts of fillers as well as more than one type/subtype of filler for optimum correction. The potpourri approach allows access to a range of prepared hyaluronic acid filler subtypes that can be used on the same patient in the one session. The potpourri method centres on the use of multiple 31-gauge insulin syringes prepared with a range of different hyaluronic acid filler products that are ready for use. This increases flexibility with filler selection and has the potential to provide better filler-to-tissue match for patients.

Key words: Skin fillers, dermal fillers, cosmetic fillers, filler layering, fractional filling.

INTRODUCTION
There is a plethora of skin fillers available for facial and extra-facial cosmetic rejuvenation. Hyaluronic acid (HA) fillers are widely used and there is a range of HA filler types and subtypes that are intended to better match tissue characteristics at the injection site. Proprietary HA fillers are commercially packaged in ready-to-go syringes (mean: 0.8–1 mL; range: 0.5–2 mL).

Filler injectors currently face the following restrictions: (i) the typical patient presenting for pan-facial filler rejuvenation may require more than one type/subtype of fillers for optimum results; (ii) the amount of filler used per session is restricted to multiples of fixed proprietary packaging; and (iii) accurate estimation of small injection volumes (0.05–0.1 mL) can be challenging with proprietary ready-to-go syringes.

Many of the above limitations can be circumvented with use of the 31-gauge 0.3-mL 0.25 mm x 8 mm Becton-Dickinson Ultra-Fine II (product number 328822) insulin syringe (51-G BD syringe), prepared from a range of different HA filler products (Fig. 1). This allows for flexible tissue tailoring with a range of commercially available HA fillers without quantitative (volume) or qualitative (filler type) restriction.

TECHNIQUE
The filler decanting method has been outlined elsewhere. All proprietary HA fillers regardless of HA particle size, concentration or degree of cross-linking can be decanted into smaller aliquots of 0.1–0.2 mL. The ideal recipient syringe is the 51-G BD syringe. For example: one syringe of Restylane® (1 mL) can make five separate syringes of 0.2-mL filler product; 1 syringe of Juvéderm® (0.8 mL) can make four syringes of 0.2-mL filler product. The potential advantages of using an insulin syringe for botulinum and filler injections have been previously documented.

The pre-prepared 31G-BD syringes containing a range of HA filler type/subtype can then be used as individual aliquots (each syringe contains 0.1–0.2 mL filler) for tissue filling. For example, a patient may present with loss of mid-face (zygomatic-malar) volume, glabella scowl lines (not fully responsive to botulinum injections), lip thinning and fine crepe-like wrinkling of the lower face (Fig. 2). For optimum filler correction, this patient requires four distinct HA filler subtypes targeting her mid-face/zygoma, glabella, lip and lower cheeks (Fig. 2). In accordance with the potpourri approach the patient received 0.8-mL Restylane SubQ® (viscosity: very high) to the mid-face, 0.1-mL Restylane Restylane® (viscosity: medium) to the glabella scowl line, 0.8 mL of a Restylane Lipp® (viscosity: coherent) to the vermilion body of the lip and 0.8-mL Restylane Vital® (viscosity: low) to the lower face/cheeks (Fig. 3).

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Submitted 2 August 2009; accepted 11 September 2009.

Abbreviation:

| HA | hyaluronic acid |
DISCUSSION

The potpourri approach centres on the 31-G BD syringe, pre-prepared with a range of different filler products. Fillers prepared in this way can be accurately delivered in precise volumes to the recipient site. Further, different HA filler subtypes can be used on different recipient sites such as the vermillion body of the lip, the peri-orbital region or the mid-face. The viscosity of the filler should also be selected to match the texture of the wrinkles and grooves (fine or coarse) to be filled. This purposeful combination of filler subtypes in the same patient offers increased flexibility with potentially better filler-to-tissue match.

The potpourri approach can also be used for serial episodic injections of relatively smaller amounts of filler product (fractional filling) until the desired level of filler correction is reached. Volume restoration can be achieved naturally and progressively over a period of time through fractional filling as opposed to large volume correction in the one sitting. Fractional filling cost less per patient-encounter and is well tolerated with potentially less pain and bruising. Although a recent study on HA filler correction for nasolabial folds demonstrated increased filler duration of up to 18 months, with a single re-treatment at 5–9 months, it remains speculative whether fractional filling can similarly extend filler longevity.

Potential drawbacks of the potpourri approach include additional preparatory time, potential microbial contamination, filler attribution-difficulties in the event of adverse reactions (rare), and relative restriction in the range of linear threading techniques because of its relatively short needle length (8 mm). Some patients are not suited to fractional filling as they prefer instant ‘make-over’ type transformation and will be dissatisfied with the more subtle, incremental or fractional method of filling.

Apart from the issue of patient preference for large volume instant correction, all the listed theoretical concerns are either of minor consideration or of no clinical relevance. Botulinum injections employ a single vial for multi-patient use and when aseptic reconstitution or decanting procedures are followed, the risk of microbial contamination is negligible. Almost all adverse outcomes relating to HA filler injection is technique related rather than from adverse idiosyncratic reaction to the filler itself. Hence any technique or injection method that has the potential to improve patient outcome and minimize injection-related adverse effects is likely to benefit the patient.

Highly viscous HA fillers such as Restylane® SubQ or Juvéderm® Voluma can also be injected relatively easily.
through the 31G-BD syringe. This is controversial as there remains theoretical concern that the small calibre lumen may damage or alter the physical and biochemical properties of the HA filler and adversely affect its in vivo stability and duration. This is an important issue that requires further study to determine whether the potpourri approach using the 31-G BD syringe can include very concentrated or highly cross-linked HA fillers.

REFERENCES


Figure 3  Day 3 post treatment.