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Global Approaches to the Prevention and Management of Delayed-onset Adverse Reactions with Hyaluronic Acid-based Fillers

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Background: Delayed-onset adverse reactions to hyaluronic acid (HA) fillers are uncommon but have received increased attention, particularly with regard to late-onset nodules. Globally, there is a need for comprehensive prevention and management strategies.

Methods: Experts with clinical practices in diverse regions of the world and extensive experience in managing complications related to HA fillers convened to propose and evaluate approaches to prevent delayed-onset adverse reactions after HA filler administration and manage late-onset nodules.

Results: The expert panel agreed to define delayed-onset adverse reactions as those presenting more than 4 weeks posttreatment, with swelling, induration, and nodulation being the most common clinical signs. The panel recommended 5 general key approaches for the prevention of delayed-onset reactions (patient selection, anatomic location of injection/product selection, aseptic technique, injection procedure/filler, and posttreatment care). Strategies recommended for managing late-onset nodules included oral antibiotics, oral steroids, nonsteroidal anti-inflammatory drugs if needed, hyaluronidase for noninflammatory nodules (recognizing the limitations and regional availability of this treatment), intralesional antibiotics, intralesional immunosuppressive drugs such as steroids and fluorouracil, and surgical excision as a last resort. The panel noted that late-onset nodules may vary in both clinical presentation and etiology, making them challenging to address or prevent, and stressed individualized treatment based on clinical presentation. Regional differences in aseptic protocols, antibiotic selection, and steroid formulations were described.

Conclusion: Insights from global experts on approaches to prevent and manage delayed-onset adverse reactions following HA filler administration, including late-onset nodules, support clinicians worldwide in optimizing patient outcomes and safety. *(Plast Reconstr Surg Glob Open 2020;8:e2730; doi: 10.1097/GOX.0000000000002730; Published online 29 April 2020.)*

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INTRODUCTION

The number of facial esthetic injectable procedures performed worldwide in 2017 was nearly 8.6 million, representing an increase of about 50% since 2011.[1,2] There is an especially high demand for injections of dermal filler products, used to smooth facial lines and replace volume lost through aging.[3–6] Injections of hyaluronic acid (HA)-based fillers accounted for more than 3 million procedures internationally in 2017.[2] The appeal of HA filler injections includes minimal postprocedural downtime and immediately visible results.[3,4,6]

The overall safety profile of HA fillers is favorable, and adverse immune reactions are rare.[3,4,6] Common, minor adverse events may include localized transient reactions, such as erythema, bruising, and pain, whereas less common, severe complications may include nodules, vascular occlusion, and visual disturbances or ocular alterations.[7] Reactions may range from mild to serious and occur soon after injection or with a delayed onset.[8–13] Delayed-onset adverse reactions, though uncommon, are being recognized more frequently as an important