Role of Massage in Preventing Formation of Papules and Nodules After Injecting Poly-L-Lactic Acid

Poly-lactic acid (PLLA) (Sculptra; Sanofi-Aventis) is a biostimulator that has been associated with complications of papule and nodule formation. A prospective study was performed with 91 immunocompetent patients, who provided written informed consent.

Methods | PLLA was prepared at least 24 hours before the injection with 6 mL of bacteriostatic water. Immediately prior to injecting, 4 mL of 2% plain lidocaine was added to make a total of 10 mL. There was only 1 injector (T.A.J.). The plane of injection was the deep dermis, close to the junction with subcutaneous tissues. Patients were given written instructions for postprocedure care and discharged. They were contacted by telephone several times over the next year, and data were recorded.

Results | Of the 62 patients who chose to massage, 27 (42%) developed papules or nodules (lumps) (Figure). Of the 29 patients who chose not to massage, 8 (28%) developed lumps. A 2-sample proportion summary of the data does not show statistical significance (P = .14). The total incidence of lumps in our study was 38.5%. The onset of lumps was as early as 2 days to as late as 10 months after the injection. The most common location for the lumps was the chin near the prejowl sulci. Patients were asked if they noticed any improvement in the skin quality; 38.5% responded a definitive “yes” and 22% responded with “maybe.” Fifty-nine patients (65%) indicated that they would be willing to be treated with PLLA again. Interestingly 54% of the patients who had developed lumps also would be willing to be treated with PLLA again.

Discussion | The initial results of PLLA have been remarkable, with satisfaction rates of more than 90%. However, there was a high incidence of papule and nodule formation in the early studies. The incidence rate has been reported to be as high as 100% in the infraorbital area. Other studies have shown the overall incidence of nodules to be 3.7% to 44%. The nodules can last for longer than 2 years despite the use of corticosteroid injections. The periorbital nodules have been seen to appear as late as 3 years after the injection. Some of the treatments include the use of topical imiquimod, 0.5% fluorouracil cream injections, intense pulsed light, doxycycline, and saline injections with mechanical breakdown of the nodule into smaller pieces. As a last resort, surgical excision has been used with success. The high incidence of adverse effects led clinicians to make changes in their techniques of constituting the medication, injecting and after care. Through the retrospective studies it has been shown that the incidence of papules and nodules decreased after implementation of these changes. However, papules and nodules have not been eliminated. Given this shortfall of PLLA, it is imperative to continue the quest for a perfect PLLA that will not lead to any papules and nodules. The role of massage after PLLA injections is unclear.

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Conflict of Interest Disclosures: Dr Janjua was a paid physician trainer for Sculptra (Sanofi-Aventis) in 2010 and 2011 and is presently on the physician trainer panel of Sculptra (Valient Pharmaceuticals).


Comment & Response

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To the Editor The importance of the blink mechanism, both volitional and reflexive, is paramount to ocular protection and...