



## CASE REPORT / ПРИКАЗ БОЛЕСНИКА

# Correction of a post-traumatically scarred upper lip with hyaluron filler

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## SUMMARY

**Introduction** It is generally known that dermal fillers are widely used in anti-aging medicine, to provide volume in healthy skin and mucous tissue. Fillers can also be successfully used with concave scars in order to lift the tissue and to give third dimension to the retracted skin surface.

The aim of this case report was to show successful non-surgical treatment with hyaluron filler of the post-traumatically deformed upper lip.

**Case outline** We report a case of a woman with asymmetric partly incompetent upper lip, after trauma and primary surgical reconstruction. After almost 12 years, reconstruction with hyaluron filler was performed, using linear retrograde and bolus technique.

**Conclusion** Presented case correction of the posttraumatic scar of the upper lip illustrates that good aesthetic results could be achieved with hyaluron fillers.

**Keywords:** hyaluron; filler; scar tissue

## INTRODUCTION

With more or less success, many techniques, such as pulsed dye laser, scar excision, dermabrasion and steroid injections, are used to improve post-surgical scars. Scars can be concave, depressed, and convex – hypertrophic [1, 2, 3]. Dermal fillers are used for esthetic purposes, to give volume to healthy skin and mucous tissue [2, 4]. Also, their use with concave scars in order to lift the tissue and to give the third dimension to the retracted skin surface showed much success [1, 2]. Hyaluron filler is a sterile, biodegradable, viscoelastic, isotonic, transparent injectable gel implant, which was approved by the United States Food and Drug Administration (FDA) in 1996. It is used for face reconstruction and remodeling [4]. In clinical practice, hyaluron fillers give good esthetic results in post-surgical scars and tissue lacking. After excessive trauma of the maxillofacial region, scars and lack of the tissue (skin, mucosa, muscle, fat, bone) could produce some degree of disfiguration and functional disturbances [1, 3]. The use of hyaluron, in order to increase volume and replace the missing tissue, could be successful, especially by applying adequate filler combined with suitable technique for each case [5]. Different fillers have various indications for scar treatment and provide variable, longer or shorter lasting results, depending on properties of cross-linked hyaluron [1, 6, 7]. With hyaluron fillers, it is possible to make scar less noticeable, to provide symmetric appearance-reshaping lips according to the patient's wishes.

The objective of this case report was to show successful, non-surgical treatment with

hyaluron filler of the post-traumatically deformed upper lip.

## CASE REPORT

We report a case of a 30-year-old woman who underwent primary surgical treatment of the upper lip traumatic wound sustained in a car accident 12 years previously (2008). Before the trauma, her lips were symmetric, competent, normal in size, with slightly thinner upper vermilion. After the surgical treatment, the right part of the upper lip remained incompetent due to the neglected hypotrophic scar. Her teeth were slightly visible showing incisal part of the right upper central and lateral incisor. Over the years, this asymmetry was even more obvious due to scar tissue contraction (Figure 1A). As a consequence, the function was compromised due to lips incompetence. Moreover, the patient was unable to pronounce labial consonants correctly. She was admitted to the Eterna Polyclinic for Plastic and Reconstructive Surgery, in order to correct the posttraumatic scar using minimally invasive esthetic treatment with hyaluron filler. The aim of the correction was to give symmetric appearance to the lips, make scar less noticeable, and to reshape the lips according to the patient's wishes. After anamnesis and clinical examination, the patient was prepared for the application of the hyaluron filler. Disinfection of the operative field – the vermilion, surrounding skin and mucosa – was done with Povidon jodid\* (10% iodine solution, Hemo-farm A.D., Vršac, Srbija), and local infiltrative plexus anesthesia 2% lidocaine – epinephrine

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**Figure 1.** (A) Before and (B) after non-surgical lip reconstruction

(lidocaine 40 mg / 2 ml + epinephrine 0.025 mg / 2 ml, Galenika a.d., Belgrade, Serbia), for the terminal branches of the maxillary nerve was applied. A gel with cross-linked hyaluronic acid (sodium hyaluronate) concentration of 20 mg/g with the addition of antioxidant (mannitol) Stylage M (Laboratoires VIVACY, Paris, France) was used. The hyaluron filler is of non-animal origin, sterile, and non-pyrogenic, physiological pH and osmolality. For injecting the filler, a 27G needle was used, 12 mm in length, factory packed with the hyaluron filler. Soft tissue reconstruction of the right side of the upper lip, by application of hyaluronic acid injection, was administered with retrograde linear and bolus technique. One-stage application of the filler was performed. Initial application of the hyaluronic acid was deposited via perpendicular approach to the volume-lacking tissue, with a gradual product deposition as the needle was withdrawn. A series of linear columns were created, to give the third dimension and more volume. These columns serve as support structures for the next phase, when bolus technique was applied. In parts of the upper vermilion, where more volume was needed, small boluses of the product were injected. Overall, 0.5 ml of the filler was administered to reconstruct the lacking volume of the upper lip. The rest of the product (0.5 ml) was used to contour and refresh the left side of the upper lip, the lower lip, and to provide an even and natural look, regarding

the patient's wishes (Figure 1B). In addition, after treatment, the patient regained the ability to pronounce labial consonants correctly.

This case report was approved by the institutional ethics committee, was done according to the Helsinki declaration, and written consent was obtained from the patient for the publication of this case report and any accompanying images.

## DISCUSSION

After an excessive trauma, injuries can be severe, and sometimes it is complicated to reconstruct or to replace the lacking tissue. Scars can be irregular, complex, and disfiguring. With the help of reconstructive surgery, consequences can be diminished. However, this type of surgery sometimes leaves unsatisfactory esthetic results, and patients do not want to undergo another surgical procedure. Over the recent decades, cosmetic surgery has become an important and challenging area, and in combination with minimally invasive procedures such as dermal filler application it can give good, natural-looking results [1, 8]. In addition, esthetic dissatisfaction impacts self-esteem and the quality of life, it is a cause for moderated social behavior, camouflage of the defect and self-awareness. [8, 9]. In the presented case, trauma despite primary reconstruction left an unsatisfactory esthetic result. The patient had psychological traumas, awareness of her appearance, and fear of any further esthetic procedures. Function of the lips was compromised, causing the inability to pronounce labial consonants due to air leakage on the side where the scar was contracted. Asymmetry, neglected scar, and long time period between the trauma/surgery and this esthetic treatment of nearly 12 years made this task even more challenging. In the literature the lips are often presented with linear scars, after cleft lip surgery or resection, with satisfactory results after esthetic treatment with hyaluron fillers [1, 2, 4]. We must emphasize the difference – in this case there was an old, irregularly shaped scar, which is much more difficult to treat. Primary use of hyaluron fillers is an esthetic improvement of healthy dermal tissue, but with corrections and reconstructions like this one we suggest that it can be successfully used in the treatment of scar tissue.

The presented correction of the posttraumatic scar of the upper lip illustrates that good esthetic results can be achieved with hyaluron fillers.

**Conflict of interest:** None declared.

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## Корекција посттрауматског ожиљка горње усне хијалуронским филером

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### САЖЕТАК

**Увод** Опште је познато да се дермални филери често користе у естетској медицини да би се обезбедио волумен здраве коже и слузокоже. Филери се могу успешно користити код конкавних ожиљака, како би се подигло ткиво и дала трећа димензија удубљеној површини коже.

Циљ овог приказа био је да се покаже успешан нехируршки третман посттрауматски деформисане горње усне применом хијалуронског филера.

**Приказ болесника** Приказује се пацијенткиња са асиметричном, делимично инкомпетентном горњом усном, након трауме и примарне хируршке реконструкције. После скоро 12 година изведена је реконструкција хијалуронским филером линеарном ретроградном и болус техником.

**Закључак** Приказан случај коригованог посттрауматског ожиљка горње усне илуструје да се добри естетски резултати могу постићи хијалуронским филером.

**Кључне речи:** хијалурон; филер; ожиљно ткиво