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**Case Report / Приказ болесника**

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**Correction of post traumatically scarred upper lip with hyaluron filler**

Корекција посттрауматског ожиљка горње усне хијалуронским филером

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

### Корекција посттрауматског ожиљка горње усне хијалуронским филером

#### 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

#### 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 случаја био је да се покаже успешан нехируршки третман посттрауматски деформисане горње усне применом хијалуронског филера.

**Приказ болесника** Презентује се пацијенткиња са асиметричном, делимично инкомпетентном горњом усном, након трауме и примарне хируршке реконструкције. Након 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:** хијаурон; филер; ожиљно ткиво

#### INTRODUCTION

Many techniques are used to improve post-surgical scars such as: pulsed dye laser (PDL), scar excision, dermabrasion and steroid injections, with more or less success. Scars can be concave, depressed and convex – hypertrophic [1, 2, 3]. Dermal fillers are used for aesthetic 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, visco-elastic, isotonic, transparent injectable gel implant, which was approved by Food and Drug Administration (FDA) in 1996. It is used for face reconstruction and remodeling [4]. In clinical practice Hyaluron fillers give good aesthetic results in post surgical scars and tissue lacking. After excessive trauma of maxillofacial region, scars and lack of the tissue (skin, mucosa, muscle, fat, bone) could produce some degree of disfiguration and functional disturbances [1, 3]. 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 upper lip traumatic wound sustained in a car accident 12 years ago (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 are 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, patient was unable to pronounce labial consonants correctly. She was admitted to the Polyclinic for plastic and reconstructive surgery Eterna, in order to correct posttraumatic scar using minimally invasive aesthetic 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, patient was prepared for application of the hyaluron filler. Disinfection of the operative field - the vermilion, surrounding skin and mucosa, was done with Povidon jodid® (10% iodine solution, Hemofarm AD, Srbija), and local infiltrative plexus anesthesia 2% lidocaine - epinephrine (lidocaine 40 mg/2 ml + epinephrine 0.025 mg/2 ml, Galenika AD Beograd), for 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 (Vivacy laboratories, France) was used. The hyaluron Filler is non-animal origin, sterile and non-pyrogenic, physiological pH and osmolality. For injection of the filler 27G thickness needle, length 12 mm factory packed with hyaluron filler was used. 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 filler was performed. Initial application of 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 3rd 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 upper lip, the lower lip and to give even and natural look, regarding the patient's wishes (Figure 1B). In addition, after treatment, patient regained the ability to pronounce labial consonants correctly.

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

## DISCUSSION

After excessive trauma injuries can be severe, and sometimes it's complicated to reconstruct or to replace the lacking tissue. Scars can be irregular, complex and disfiguring. With the help of the reconstructive surgery, consequences can be diminished. However, this type of surgery sometimes leaves unsatisfactory aesthetic results, and patients don't want to undergo another surgical procedure. Over the recent decades, cosmetic surgery has become an important and challenging area, in combination with minimally invasive procedures such as dermal filler application it can give good, natural looking results [1, 8]. In addition, aesthetic dissatisfaction impacts self-esteem and quality of life, it is a cause for moderated social behavior, camouflage of the defect and self awareness. [8, 9]. In presented case, trauma despite primary reconstruction left unsatisfactory aesthetic result. Patient had psychological traumas, awareness of her appearance and fear of any further aesthetic 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 aesthetic treatment of nearly 12 years, made this task even more challenging. In the literature are often presented lips, with linear scars, after cleft lip surgery, or resection, with satisfactory results after aesthetic treatment with hyaluron fillers [1, 2, 4]. We must emphasize the difference, in this case we had irregular in shape, old scar, which is much more difficult to treat. Primary use of hyaluron fillers is aesthetic

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.

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

**Conflict of interest:** None declared.

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**Figure 1.** A before and B after non-surgical lip reconstruction

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