Treatment of Hyaluronic Acid Filler Complication: Nasal Skin Necrosis

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Introduction:

Hyaluronic acid (HA) injection–induced skin necrosis is a rare but serious complication, particularly after nasal injections. Early recognition and immediate treatment are essential to limit adverse effects. Prompt management of vascular compromise requires stopping the injection and administering intralesional hyaluronidase, which degrades HA fillers and helps restore blood flow.

Creating an optimal wound-healing environment is crucial. Debridement of necrotic tissue and thorough irrigation reduce bacterial load and support repair. Non-adherent antimicrobial dressings can promote granulation and epithelialization. Adjunctive therapies, such as hyperbaric oxygen therapy, platelet-rich plasma, or growth factors, may further enhance revascularization and tissue healing.

Close monitoring is necessary to assess treatment response and detect infection or persistent ischemia. The author also emphasizes the value of laser procedures for skin healing, rejuvenation, and scar control, especially when initiated early. Timely identification and management of this complication improve outcomes and reduce long-term effects.

Laser	SP Dynamis® Nx Line	StarWalker® MaQX		SP Dynamis® Nx Line	
	Step 1	**Step 2**	**Step 3**	**Step 4**	**Step 5**
Wavelength	1064 nm	1064 nm	1064 nm	1064 nm	2940 nm
Handpiece	R35-Nx	R28	FS20A	R35-Nx	PS03X
Spot size	4 mm	8 mm		2–4 mm	6 mm
Energy / Fluence	10–15 J/cm^2	2 J/cm^2	7 mJ/px	160–200 J/cm^2	15.2–20 J/cm^2
Mode / Pulse	FRAC3 1.6 ms	MaQX-1	MaQX-1	FRAC3-Versa 1.6 ms–10 ms	LP 300 ms (Turbo 4)
Frequency	4 Hz	4 Hz	2 Hz	1 Hz	1.2 Hz
Water	1			3	
Air	1	2	2	5	
Passes / Repeats	10 passes	4 passes	9 passes	1	3–4 passes

Dr. Naci Celik is an Associate Professor of Plastic, Reconstructive, and Aesthetic Surgery at Atlas University, Istanbul, and has been in private practice since 2002. He works with the SP Dynamis Pro NX Line and StarWalker MaQX systems in his Nişantaşı clinic, focusing on advanced facial rejuvenation and body contouring. Dr. Celik is a faculty member and invited speaker at international congresses such as ISAPS, AMWC, IMCAS, ISAM, and CBAM, and regularly organizes hands-on training workshops in Istanbul for doctors from around the world.

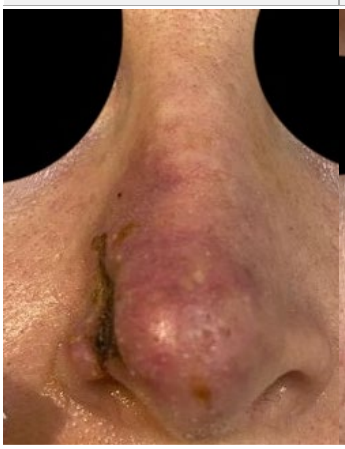
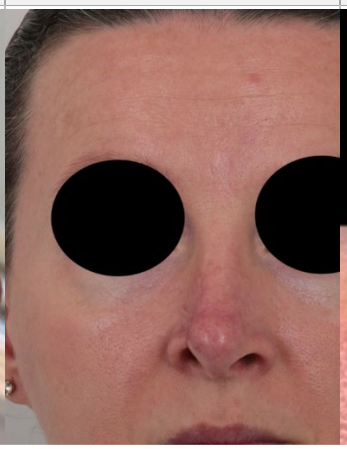
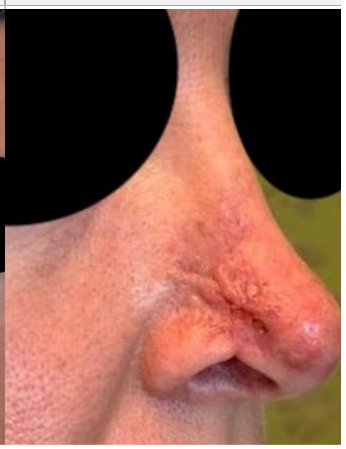
CLINICAL CASES:

This study presents two cases. Case 1 involves a 40-year-old woman who received a hyaluronic acid filler injection to correct a minor secondary nasal deformity during another aesthetic operation performed under general anesthesia. Approximately 12 hours post-surgery, the patient experienced pain in her nose. The delayed onset of pain may have been caused by the general anesthesia and pain medication. She sought medical attention the following morning, during which her doctor identified the issue and initiated treatment using hyaluronidase injections and hyperbaric oxygen therapy, as recommended for such cases. Unfortunately, the patient developed skin necrosis, leading to her referral to our clinic six weeks after the incident.

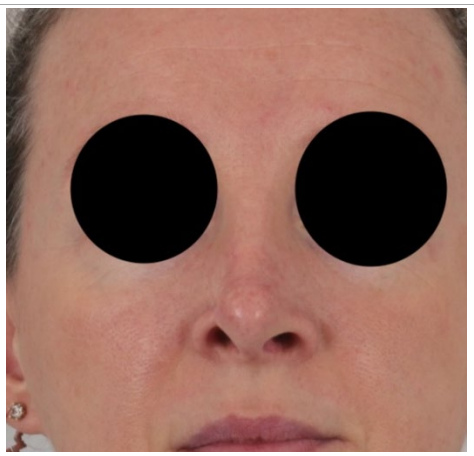
We immediately initiated treatment according to step 1 of our protocol, which was then repeated once per week for three consecutive weeks. Hypertrophic scar formation and neovascularization were observed from the beginning. There were no post-inflammatory pigmentation changes, and for this reason, we decided to omit steps 2 and 3. Only step 1 was applied for three weeks. After the third week, we progressed to step 4, which targeted the telangiectasia around the scars. Initially, we used the R35-Nx handpiece with a 2 mm diameter and 160 J/cm^2 in FRAC3 mode. To address unresponsive telangiectatic vessels surrounding the scars, we switched to a 4 mm diameter and increased the pulse width to 5–10 ms. It is important to note that stacking shots were strictly avoided. Subsequently, we addressed the hypertrophic scars with ablation during the same session using the PS03X handpiece with a 6 mm spot size. Initially, treatment was administered at 15.2 J/cm^2, and it was increased to 20 J/cm^2 in later sessions, using Turbo 4 mode to maintain low frequency with high fluence. Topical triamcinolone acetonide was applied immediately after the Er:YAG sessions, as intralesional injection could potentially lead to unwanted complications. Treatment continued for approximately six months (one session per month) before the desired outcomes were achieved.

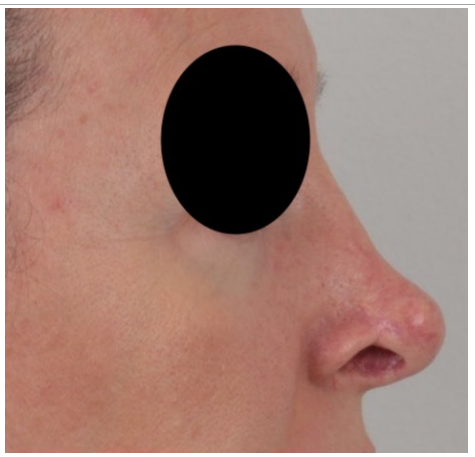
Case 2 involves a 38-year-old woman who received a hyaluronic acid filler injection to correct nasolabial folds. During the injection, she experienced sharp pain, prompting the aesthetic practitioner to halt the procedure. After some massage, the patient was sent home without further treatment. The next day, she sought assistance from another plastic surgeon, as the aesthetic practitioner was unable to provide any resolution. Two days after the incident, the plastic surgeon initiated hyaluronidase injections and hyperbaric oxygen therapy. Ten days later, the patient came to my clinic, where the wound had already undergone debridement and closure.

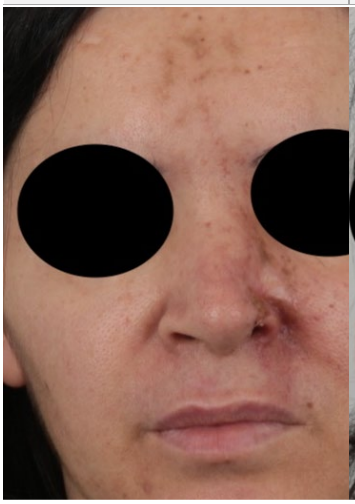
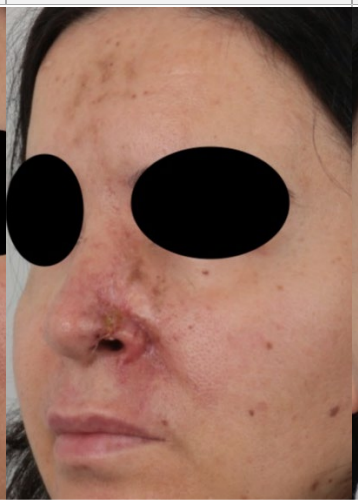
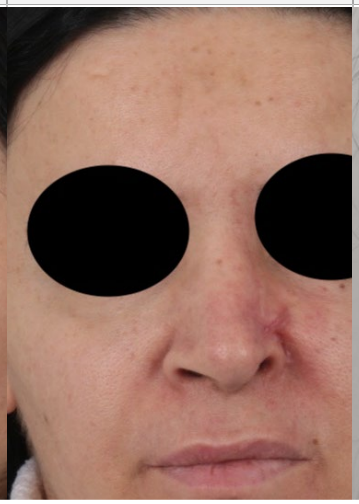
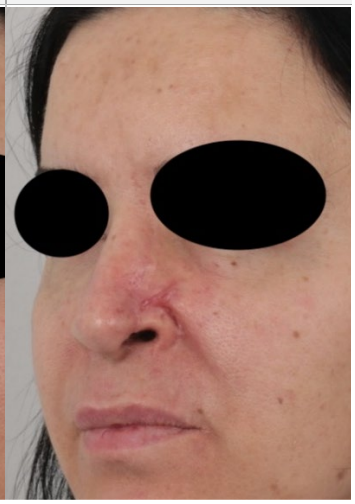
We promptly commenced our treatment protocol, conducting the first two sessions at two-week intervals, encompassing steps 1, 2, and 3. Steps 2 and 3 specifically addressed the left cheek and forehead's post-inflammatory hyperpigmentation. Subsequently, we administered two additional sessions, incorporating steps 1, 4, and 5. Beyond this, the patient will require further laser treatments to enhance her condition.

Case 1: Before: 10 days after the incident	Case 1: Before: 10 days after the incident	Case1: Before laser treatments	Case1: Before laser treatments
			

Case1: 4 months after the sixth session	Case 1: 4 months after the sixth session





Case 2: Before: 10 days after the incident	Case 2: Before: 10 days after the incident	Case 2: Two weeks after the second session	Case 2: Two weeks after the second session
			

Case 2: 3 weeks after the fourth session	Case 2: 3 weeks after the fourth session