Clinical Management of Minor Complications After Nanofat and Platelet-Rich Plasma in Facial Rejuvenation

Katerina Green, MB BCh BAO[1], Kendra Walker, MD[1], Hannah Daniel, MD[1], Deanna Menapace, MD[1]

[1]Mayo Clinic, Jacksonville, FL, Division of Otolaryngology-Head and Neck Surgery

BACKGROUND

Nanofat combined with platelet-rich plasma (PRP) has gained popularity in facial plastic surgery due to favorable aesthetic outcomes and a strong reported safety profile. While existing literature largely emphasizes an absence of complications, minor adverse events may be underreported.

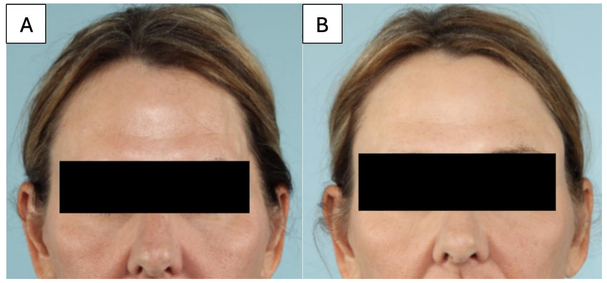
OBJECTIVE

We aim to review our experience with minor complications from nanofat with PRP when used adjunctively
with facial rejuvenation procedures
and approaches to management.

METHODS

Retrospective case review of patients with minor complications related to the use of nanofat with PRP for facial rejuvenation. In each case, fat was harvested from the abdomen via blunt cannula and manual aspiration. It was purified using the Nanospin system (Tulip Medical). Microfat was preserved, and the remainder was processed through the NanoTransfer to produce nanofat which was combined with PRP in a 1:1 ratio.

CASE 1



58-year-old female with prior temporal hardware placement following brain tumor resection, presented for hardware removal due to visibility beneath thin skin

Figure 1: Pre fat injection temporal wasting Figure 2: 7 months post fat necrosis temporal swelling

She underwent microfat-PRP injections into the temporal defect, with nanofat injection into the intradermal planes.

- 7mos post-procedure, she had left temporal swelling. US demonstrated a 4.0×3.8 cm subcutaneous fluid collection, and 9 cc of turbid white fluid was aspirated.
- Workup and MRI imaging were consistent with fat necrosis.
- Aesthetic outcome was suboptimal, with persistent temporal atrophy

CASE 2

55-year-old female underwent lower eyelid blepharoplasty with adjunctive nanofat with PRP injection into the intradermal planes and SMAS of the bilateral cheeks, temples, and tear troughs for rejuvenation and biostimulation. Microfat with PRP was injected deeper for volume restoration in the cheeks, temples, and tear troughs.

- 1 mo post-procedure, under-eye texture irregularities were first noted and topical retinol was recommended with massage to the area.
- 6 mos post-procedure, CO_2 laser resurfacing was offered but deferred.
- 1.5 years post-procedure, persistent small periorbital nodules were treated with intralesional triamcinolone, with improvement.
- Suspected etiology of the nodules was poor underlying adipocyte quality in the microfat grafting leading to a superficial fibrotic reaction.

CASE 3



56-year-old male underwent repeat periorbital micro-fat and nanofat grafting with PRP 6 months after facelift with lower eyelid skin-pinch.

Figure 2: A: Nodular swelling of right upper eyelid post fat injection B: Post excision of fat excess

- Developed nodular swelling of the right upper eyelid.
- 6 weeks post procedure the area was treated with intralesional triamcinolone.
- 6 months post procedure persistent nodularity addressed with in-office direct incision and removal of excess microfat from the right upper eyelid (right).

CONCLUSIONS

Although nanofat with PRP injections are widely regarded as safe, minor complications may occur, particularly when used in conjunction with other facial rejuvenation procedures. These complications were effectively managed with conservative or minimally invasive measures. Reporting such outcomes is essential for informed patient counseling and for establishing realistic safety expectations for emerging regenerative techniques in facial plastic surgery.

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