

Does Prior Treatment With Facial Injectables Increase the Risk of Rhytidectomy Complications?

Jennifer Salsberg, MD, MSc,*† and Dimitrios Motakis, MD, PhD†

BACKGROUND It is unknown whether facial injectable treatments before rhytidectomy increase the risk of surgical complications, and data on the safety of rhytidectomy after prior injectable (PI) treatments are essential for clinicians and patients.

OBJECTIVE The authors sought to determine whether facial injectable treatments increase complications from rhytidectomy surgery.

MATERIALS AND METHODS The authors performed a retrospective chart review of all patients who had a deep-plane rhytidectomy over a 15-month period. The authors recorded PIs comprising HA, calcium hydroxylapatite, and/or poly-L-lactic acid, or no prior injectables (NPI) to determine whether patients with prior facial injectables were at increased risk of complications after rhytidectomy.

RESULTS More than half of patients (57%) had received injectable treatments before surgery. Twenty five patients (24%) had complication after rhytidectomy. Of these, 17 had PI and 8 had NPI. The rate of complications among all PI patients was 17/106 (16%), and the rate of complications among all NPI patients was 8/106 (8%), which is not statistically significant $p = .188$.

CONCLUSION Their study demonstrates no significant increased risk of complications after rhytidectomy in patients with a history of facial injectable procedures. To the best of the authors' knowledge, this is the first study documenting the safety of rhytidectomy after PI procedures.

The question of whether facial injectable treatments before rhytidectomy increase the risk of surgical complications has not yet been answered. Data on the safety of rhytidectomy after prior injectable (PI) treatments are essential for clinicians to advise patients regarding surgical complication risk and to make informed choices about aesthetic interventions over time. There has been a consistent rise in both surgical and nonsurgical aesthetic procedures,¹ with an 8% rise in rhytidectomy procedures in 2022 and a 70% increase in hyaluronic acid (HA) facial injectable procedures from 2019 to 2022.² As such, it is becoming increasingly likely that patients undergoing rhytidectomy surgery will have had prior exposure to injectable treatments including HA, calcium hydroxylapatite (CaHA), and/or poly-L-lactic acid (PLLA). It is thus critical for physicians providing minimally invasive aesthetic treatments, as well as surgeons consulting patients regarding rhytidectomy to be well-versed in the potential risks and benefits of surgery after injectable treatments. Jacono and colleagues³ found that

most patients undergoing rhytidectomy who had received PI treatments were satisfied and did not regret the nonsurgical treatments they had received before surgery, which demonstrates that even if they ultimately undergo rhytidectomy surgery, injectable treatments are a valuable component of patients' aesthetic journeys. Despite the fact that patients remain satisfied with their nonsurgical treatments before rhytidectomy, there has been increasing debate regarding whether PI treatments may make subsequent rhytidectomy surgery more difficult to perform or increase postsurgical complication rates. In a survey of plastic surgeons conducted by the Aesthetic Society, 39.7% of surgeons believed that a history of panfacial filler injections increased the risk of surgical complications.⁴ In addition, Skouras and colleagues⁵ noted anecdotally that dissection in revision rhytidectomy surgery was more difficult when patients had undergone prior large-volume injectable procedures, especially with nonabsorbable products. Despite an increasing sentiment that this may be the case, there are currently no evidence-based studies on the topic.

From the *Division of Dermatology, University of Toronto, Toronto, Ontario, Canada; † AvenueMD Cosmetic Dermatology and Plastic Surgery, Toronto, Ontario, Canada
J. Salsberg is a paid consultant, speaker, and/or advisory board member for Galderma, Merz, and L'Oréal. The remaining author has indicated no significant interest with commercial supporters.

Address correspondence and reprint requests to: Jennifer Salsberg, MD, MSc, AvenueMD, 160 Avenue Road, Toronto, ON, M5R 2H8, Canada, or e-mail: jennifer@drsalsberg.com

© 2025 by the American Society for Dermatologic Surgery, Inc. Published by Wolters Kluwer Health, Inc. All rights reserved.
Dermatol Surg 2025;00:1–3
<http://dx.doi.org/10.1097/DSS.0000000000004970>

Objectives

The authors sought to determine whether any prior facial injectable treatments cause increased complications from rhytidectomy surgery. The authors define PI treatments as HA, CaHA, and PLLA alone or in combination.

Materials and Methods

The authors performed a retrospective chart review of all patients who had a deep-plane rhytidectomy from a single

plastic surgeon (Dr. Dimitrios Motakis) over a 15-month period from January 2023 to March 2024. All patients undergoing rhytidectomy during that time frame were included in the study. For each patient, the authors recorded PI comprising HA, CaHA, and/or PLLA, or no PI (NPI) taken from the history on their initial consultation, as well as surgical time and presence and type of surgical complications. All patients were required to cease smoking 2 months before the procedure. Both groups contained equal amounts of patients undergoing a rhytidectomy alone versus rhytidectomy with additional procedures (blepharoplasty, forehead lift, fat grafting). Patients were followed for 6 to 12 months postoperatively. The chi-squared test for independence was calculated to determine whether patients with prior facial injectables were at a statistically significant increased risk of complications after rhytidectomy.

Results

One hundred and six patients qualified for inclusion in the study, 102 female and 4 male. Patients ranged in age from 40 to 80 years with a mean age of 61 years, and there were no major demographic differences between PI and NPI patients. More than half of patients (57%) had received injectable treatments before surgery. In total, 25 patients (24%) had a complication after rhytidectomy. Of these, 17 had PI and 8 had NPI. There was no statistically significant difference in surgical time in PI (4.7 hours) and NPI (5 hours) patients ($p = .069$). The rate of complications among all PI patients was 16% (17/106), and the rate of complications among all NPI patients was 8% (8/106), which is not statistically significant $p = .188$ (Figure 1). The individual types of complications occurring in both PI and NPI patients is reported in Figure 2, and none of the individual complications were significantly more associated with PI procedures; however, this is limited by the low numbers of patients in each subgroup. Complications were documented as transient tissue ischemia (violaceous skin change), hematoma (small localized swellings, none requiring operative intervention), infection (localized

erythema resolving with antibiotics), dehiscence (closed secondarily), granuloma (firm inflammatory nodule treated with intralesional corticosteroids). All complications were deemed by the surgeon as mild in nature and fully resolved with or without intervention.

Discussion

The results of this study provide reassurance that injectable treatments can serve as a safe alternative for aesthetic patients not yet ready for surgery and should not subsequently affect the safety of rhytidectomy. Patients at the outset of their aesthetic journey and PI patients undergoing surgical consultation will benefit from these data, as they allow them to make informed decisions regarding their treatment plan. It has been suggested that the use of PIs can create increased difficulty for surgeons performing rhytidectomy as a result of tissue distortion from scarring and difficulty with raising healthy flaps.⁴ The lack of difference in surgical time between PI and NPI patients in their study suggests that there was no increased difficulty in performing surgery on those with PI treatments, which is reassuring regarding the performance of rhytidectomy on patients who have received injectables in the past. All rhytidectomies in this study were performed using a deep-plane technique, which requires minimal skin undermining and dissects in an avascular plane underneath the Superficial musculoaponeurotic system (SMAS). In this plane, the presence of PIs may not interfere with the surgical dissection. It is possible that there is a dose relationship and that patients in their study had not received significant enough volumes of PIs to negatively affect surgical times and lead to increased complications. There are several limitations to this study. The retrospective nature relied on patient history regarding PI treatments. Patient recollection of where they were injected, with what material, and when those injections took place is often incomplete. Lack of knowledge of the exact location of PIs does not allow them to differentiate between areas treated within the surgical field compared with those more distant. Furthermore, while the data suggest that there

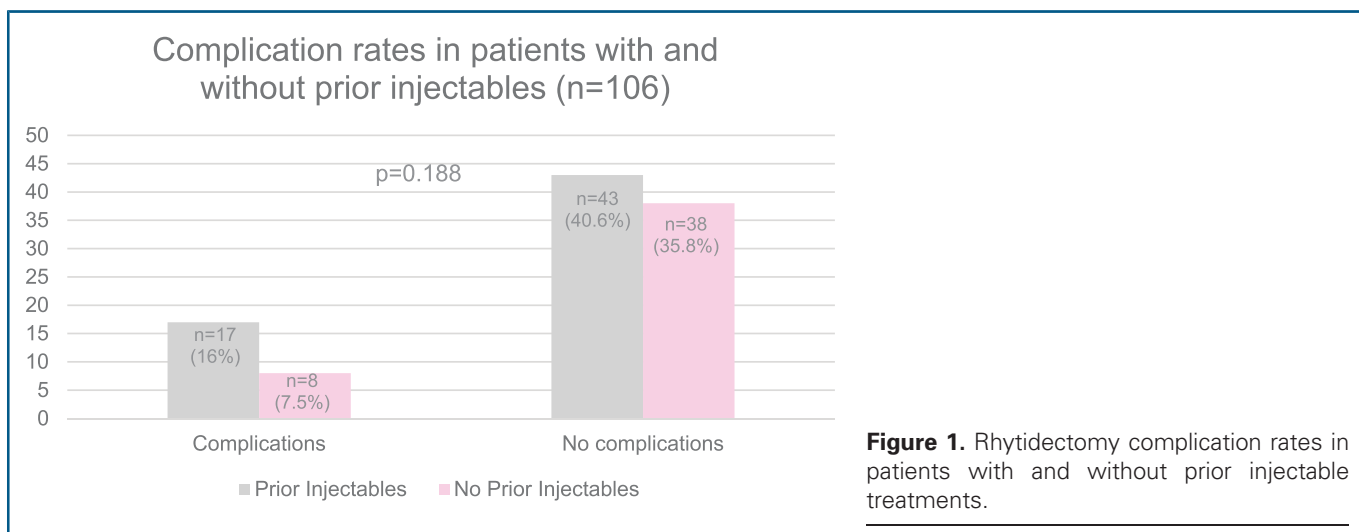


Figure 1. Rhytidectomy complication rates in patients with and without prior injectable treatments.

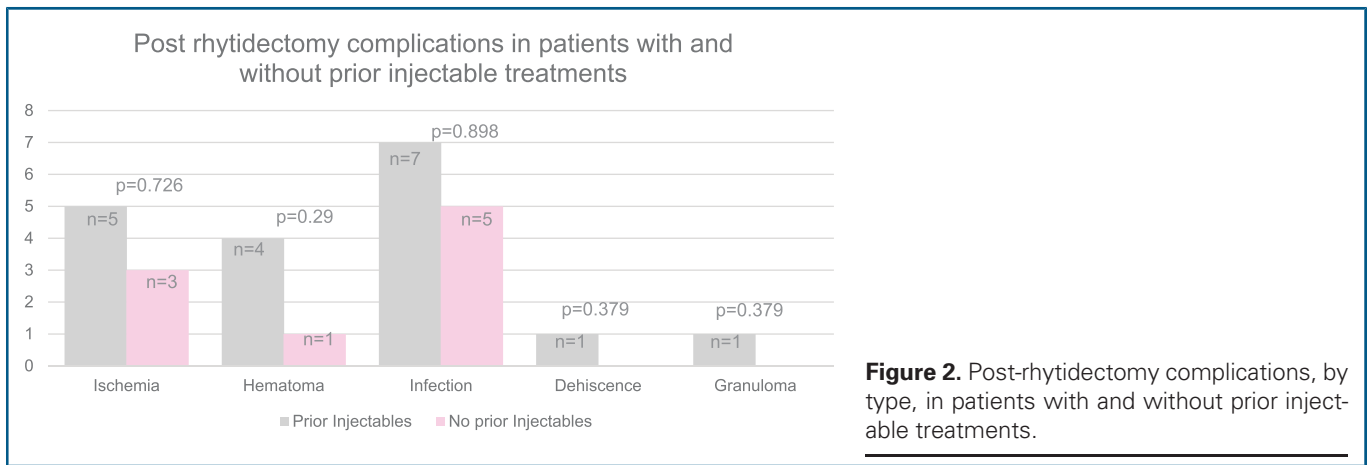


Figure 2. Post-rhytidectomy complications, by type, in patients with and without prior injectable treatments.

is no difference in surgical complications between the 2 groups, the small sample size of the study limits our ability to draw definitive conclusions. While this study provides necessary preliminary data, additional study is needed to clarify this topic further. Studies with a larger sample size and that individually examine the impact of HA, CaHA, PLLA, as well as lasers and energy-based devices on surgical complications and outcomes are needed. As well, it would be beneficial to examine whether there is a dose relationship between surgical outcomes and the frequency and volumes of injectable treatments. Further data will allow us to better determine the impact of various treatments, which would further guide decision-making and treatment planning for both physicians and patients.

Conclusion

Our study demonstrates no statistically significant increased risk of complications after rhytidectomy in patients with a history of facial injectable procedures. To the best of the authors' knowledge, this is the first study of its kind documenting the safety of rhytidectomy after PI procedures.

Acknowledgments

The authors acknowledge Dr. Priyanka Chadha for her help with the poster that preceded this manuscript.

References

1. 2023 *Plastic Surgery Statistics Report*. 2023. American Society of Plastic Surgery. Available from: <https://www.plasticsurgery.org/documents/news/statistics/2023/plastic-surgery-statistics-report-2023.pdf>. Accessed September 27, 2024.
2. 2022 ASPS Procedural Statistics Release. 2022. American Society of Plastic Surgery. Available from: <https://www.plasticsurgery.org/documents/news/Statistics/2022/plastic-surgery-statistics-report-2022.pdf>. Accessed September 27, 2024.
3. Jacono A, Malone M, Lavin TJ. Nonsurgical facial rejuvenation procedures in patients under 50 prior to undergoing facelift: habits, costs and results. *Aesthet Surg J*. 2017;37:448–53.
4. Sweis I, DeRoss L, Raman S, Patel P. Potential effects of repetitive panfacial filler injections of facelift surgery and surgical outcomes: survey results of the members of the aesthetic society. *Aesthet Surg J Open Forum*. 2023;5:ojad010.
5. Skouras GA, Skouras AG, Skoura EA. Revision and secondary facelift: problems frequently encountered. *Plast Reconstr Surg Glob Open*. 2020;8:e2947.