

Cleft Rhinoplasty: A Novel Flap for Correcting Alar Base Malposition

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INTRODUCTION: The external nasal valve (ENV) represents the initial area of airway resistance of the nose. When this area is excessively narrow or lacks support, a patient can develop nasal obstruction leading to a decreased quality of life. While composite grafts may be used to support the lateral wall, repositioning a stenotic naris can be challenging. Weir incisions are a well-described technique used to move flared nostrils inward. However, moving medially displaced nostrils laterally is less commonly described. This case report describes a patient with ENV collapse and alar base malposition resulting in significant airway obstruction. Our surgical team developed a novel inferiorly-based alar base flap to achieve lateral movement of the displaced naris.

CASE PRESENTATION: An 18-year-old woman with a history of previously repaired right-sided cleft lip/palate and cleft nasal deformity presented to our clinic complaining of continued right-sided nasal obstruction and asymmetry. She had previously undergone multiple operations, including open rhinoplasty with rib cartilage grafts by another surgeon.

On examination, the patient had four problems that warranted correction: right internal nasal valve collapse, right ENV collapse, right-sided alar base/ nostril asymmetry, and nasal tip deformity. We discussed with the patient that all four problems could not be addressed in a single procedure. Correcting the internal nasal valve collapse and tip aesthetics would require a repeat open rhinoplasty, while fixing the ENV collapse and alar base/nostril asymmetry would require an operation on the external naris. However, performing both procedures at the same time would be risky due to concern for vascular compromise to the tissues. The patient was most bothered by her right-sided ENV collapse and alar base/nostril asymmetry and chose to have these corrected first.

Our operative goal was to open up the right nostril by supporting the ala with a cartilage graft and repositioning the ala laterally. Previously described techniques for alar base

repositioning in stenotic nostrils use flaps with superiorly-based pedicles perfused by the lateral nasal arteries. Due to the degree of movement and repositioning of the alar base, we determined that an inferiorly based flap would work better. Therefore, our team designed an alar base flap with an inferiorly-based pedicle to suit our patient's needs.

RESULTS: Postoperatively the patient had improvement in her ENV collapse and nasal obstruction and was happy with her results. She did not have any complications following the operation.

CONCLUSION: This novel, inferiorly-based alar base flap is a useful alternative for alar base repositioning in the setting of a severely medially displaced alar base.

Immediate Lymphatic Reconstruction Drastically Lowers Lymphedema Incidence in Axillary and Inguinal Lymphadenectomy: A Systematic Review

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BACKGROUND: Secondary lymphedema remains one of the most notorious complications of axillary lymph node surgery following mastectomy. There is a lack of high-level evidence on the effectiveness of immediate lymphatic reconstruction (ILR) in preventing secondary lymphedema. However, ILR is beginning to be more accepted by plastic surgeons to decrease the incidence of lymphedema. Therefore, lymphedema outcomes from ILR are needed now more than ever. We evaluate ILR outcomes for the prevention of secondary lymphedema in axillary and inguinal lymphadenectomy patients. The purpose of our study was to analyze the outcomes of ILR where the main mechanism was lymphaticovenous anastomosis/bypass. This includes direct shunting of lymphatic fluid to the venous system. Additionally, we provide our own suggestions for this specific mechanism of ILR and what future studies should be done to provide more outcomes to increase the effectiveness of ILR.

METHODS: The authors conducted a review of all English language articles between 2009 and 2020 in PubMed, Embase, and Web of Science, reporting original outcomes on different methods of ILR in preventing secondary lymphedema, according to Preferred Reporting Items for Systematic Review and Meta-Analyses guidelines. Overall incidence timeline of lymphedema in patients postoperatively, postoperation complications, and surgical techniques were recorded and analyzed. We excluded non-ILR interventions, literature reviews/letters/commentaries, and non-human or cadaver studies. Risk of bias was assessed. A total of 789 patients that were enrolled in 13 studies were included in our one-arm meta-analysis.

RESULTS: A total of 13 studies encompassing 789 patients met inclusion criteria: upper extremity ILR ($n = 665$) and lower extremity ILR ($n = 124$). Females accounted for 99.4% of the patients studied for upper extremity ILR, while men (69.4%) consisted mostly the lower extremity ILR cohort. The overall incidence of lymphedema for upper extremity ILR was 2.7% (95%CI: 1.1%–4.4%, $P < 0.001$), and lower extremity ILR was 3.6% (95%CI: 0.3%–10.1%, $P < 0.001$). For upper extremity ILR, the average follow-up time was 11.6 ± 7.8 months and the LE incidence appeared to be the highest around 1–2 years postoperation. ILR procedural time for upper extremity was 45.1 minutes (95%CI: 31.4–58.9 minutes) and lower extremity was 95.1 minutes (95%CI: 75.5–114.7 minutes). Higher incidence of postoperative complications was seen in lower extremity ILR patients (1.6%, 95%CI: 0.1%–4.8%, $P < 0.001$) than upper extremity ILR patients (0.9%, 95%CI: 0.1%–0.6%, $P < 0.001$), but neither significantly increased the risk of lymphedema (RR = 0.16, 95%CI: 0.01–4.26, $P = 0.20$). There was no correlation of lymphedema incidence rate with BMI ($r = 0.115$, $P = 0.73$), additional time added to a procedure ($r = 0.159$, $P = 0.73$), number of lymph nodes identified ($r = -0.194$, $P = 0.54$), and number of lymph nodes removed ($r = 0.080$, $P = 0.80$)

CONCLUSIONS: Lymphedema is a common complication in cancer treatment that needs to be taken seriously. Immediate Lymphatic Reconstruction is an effective technique to restore lymphatic drainage at the time of the index procedure for both upper and lower extremities and will decrease the incidence of lymphedema. Plastic surgeons who perform axillary lymphadenectomy for breast cancer or inguinal lymphadenectomy for malignant melanoma or for vulvar cancer may increase a patient's risk of lymphedema postoperation and should consider ILR to reduce this risk.

The Development of a Virtual Sub-internship in Plastic Surgery during the COVID-19 Pandemic

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INTRODUCTION: The COVID-19 pandemic forced many institutions to modify their educational practices and experiences, including halting visiting rotations for senior medical students. These rotations provide opportunities for both programs and students to meet one another, and allow for students to gain clinical and didactic knowledge in a subspecialty field. A number of previous studies have shown that a large portion of medical students match at an institution at which they rotated.^{1–3} However, with social distancing and travel restrictions, outside medical students were unable to visit our institution. In light of this, our section felt it was necessary to develop a virtual curriculum to provide a similar experience. The aim of this study was to share our experience and feedback from students, residents, and faculty.

METHODS: The virtual rotation design mirrored that of our in-person rotation and included a mix of lectures, operative cases, case discussions, and social events. Students completed HIPAA training prior to the rotation, and specific consent was obtained from patients whose surgical cases would be live streamed for teaching. Feedback was obtained via prerotation and postrotation surveys on Qualtrics, as well as interviews with students, residents, and faculty.

RESULTS: Twelve students participated (3 rotations, 4 students each). The curriculum included approximately 19 hours of lecture, 29 hours of live operating room time, and 8 hours of informational, mentor, or social events. Eight students (75%) completed the pre-rotation survey, and five (42%) completed the post-rotation survey. Overall, visiting students enjoyed the virtual rotation and found it useful and informative. When asked if virtual rotations should be kept as an option next year, 60% answered “yes” and 40% responded “maybe.” Notably, students reported feeling like that they knew more about the University of Chicago program after the rotation, and they answered an average of 3.20 and 3.37 points higher in the post survey to “On a scale from 1 to 10 how much do you feel like you know about the University of Chicago Program- Faculty” and “Residents,” respectively. Students reported that they enjoyed interacting with the team and the learning opportunities, but some noted that it was difficult to make an impression.