Opinion Article

iMedPub Journals
www.imedpub.com

Journal of Aesthetic & Reconstructive Surgery
ISSN 2472-1905

2024
Vol.10 No.3:80

Application of Homologous Costal Cartilage in Rhinoplasty and Cleft Lip Rhinoplasty

Lidija Juboori*

Department of Otorhinolaryngology, Kyoto University, Kyoto, Japan

Corresponding author: Lidija Juboori, Department of Otorhinolaryngology, Kyoto University, Kyoto, Japan, E-mail: juboori_l@gmail.com

Received date: August 28, 2024, Manuscript No. IPARS-24-19914; **Editor assigned date:** August 30, 2024, PreQC No. IPARS-24-19914 (PQ); **Reviewed date:** September 13, 2024, QC No. IPARS-24-19914; **Revised date:** September 20, 2024, Manuscript No. IPARS-24-19914 (R); **Published date:** September 27, 2024, DOI: 10.36648/2472-1905.10.3.80

Citation: Juboori J (2024) Application of Homologous Costal Cartilage in Rhinoplasty and Cleft Lip Rhinoplasty. J Aesthet Reconstr Surg Vol.10 No. 3:80.

Description

Rhinoplasty is one of the most common facial reconstructive and aesthetic surgical procedures performed worldwide. It involves the reshaping or reconstruction of the nose for either functional or cosmetic reasons. One of the major challenges in rhinoplasty is obtaining adequate cartilage grafts for nasal reconstruction, especially in cases where the patient has insufficient septal or auricular cartilage. In these situations, surgeons often turn to alternative sources for graft material, such as rib cartilage. Homologous Costal Cartilage (HCC) is a promising alternative for nasal reconstruction, particularly in complex cases like cleft lip rhinoplasty, where nasal deformities are more pronounced. This article analyses the use of homologous costal cartilage in rhinoplasty and cleft lip rhinoplasty, its advantages, potential complications and clinical outcomes.

Homologous costal cartilage

Homologous costal cartilage refers to cartilage that is harvested from a donor and preserved for use in patients undergoing reconstructive surgery. Unlike autologous cartilage, which is obtained from the patient themselves, homologous costal cartilage is derived from cadaveric donors. The cartilage is typically harvested from the ribs, which provide a large amount of strong, flexible material that can be used to support and reshape the nasal framework.

The use of homologous cartilage in reconstructive surgery has a long history, particularly in procedures where autologous grafts are unavailable, insufficient or not desirable. The most common source of homologous cartilage in rhinoplasty is from donors who have consented to organ and tissue donation programs. The cartilage is preserved using standard techniques of cryopreservation or chemical preservation, which maintain the integrity and viability of the tissue until it is used in a recipient.

Uses of homologous costal cartilage

In conventional rhinoplasty, the primary challenge for surgeons is obtaining sufficient cartilage grafts to reconstruct or augment the nasal structure. When the septal or auricular cartilage is insufficient or unsuitable for use, homologous costal cartilage becomes a viable option. It is especially useful in secondary rhinoplasty or reconstructive procedures where significant tissue loss has occurred, such as after previous surgeries, trauma or congenital deformities.

Cleft lip and palate patients often present with severe nasal deformities due to the congenital absence or malformation of the nasal structures. The use of homologous costal cartilage in cleft lip rhinoplasty offers a solution to address these deformities, providing a stable foundation for the nasal framework and improving both the function and aesthetic appearance of the nose. In many cases, the deformities involve a collapsed nasal tip, asymmetry or absence of the columella, all of which can be corrected using cartilage grafts. Patients with complex nasal defects, such as those resulting from trauma, tumors or infections, may require large grafts for functional and aesthetic reconstruction. Homologous costal cartilage offers a suitable alternative when the patient's own cartilage is unavailable. It can be used to create a stable, durable structure that mimics the natural nasal anatomy.

One of the main benefits of homologous costal cartilage is the availability of a large quantity of cartilage that can be used for reconstruction. This is particularly beneficial in cases where the patient's own cartilage is insufficient. The ribs provide an abundant source of cartilage that can be harvested without compromising other structures. Homologous costal cartilage is strong and durable, making it an excellent choice for creating structural support in rhinoplasty. It provides a solid framework for nasal reconstruction, especially in cases where the nasal support is compromised, such as in cleft lip patients. The rigidity of the cartilage ensures that the nose maintains its shape over time.

Homologous costal cartilage, when properly harvested and preserved, can be well tolerated by the recipient's body. Since cartilage is largely made up of cells that have low immunogenicity, it is less likely to cause rejection when implanted. Furthermore, preservation methods ensure that the tissue remains functional, reducing the risk of complications associated with grafts. Using homologous costal cartilage eliminates the need for harvesting cartilage from the patient's own body, thus avoiding additional surgical sites and potential

donor site complications. This reduces the overall morbidity and recovery time for the patient.

Several studies have examined the outcomes of using homologous costal cartilage in rhinoplasty and cleft lip rhinoplasty. In most cases, patients have experienced satisfactory results with minimal complications. The grafts have shown to be stable, with minimal risk of infection, rejection or resorption. Furthermore, the aesthetic and functional outcomes of nasal reconstruction, particularly in cleft lip patients, have been significantly improved. For cleft lip rhinoplasty, homologous costal cartilage has been shown to improve the structural integrity of the nose, correct tip deformities and restore nasal symmetry. Additionally, the overall patient satisfaction rates have been high, especially in cases where autologous tissue was not available.