International Journal of Medical Science and Clinical Research Studies

ISSN(print): 2767-8326, ISSN(online): 2767-8342

Volume 04 Issue 06 June 2024

Page No: 1069-1071

DOI: https://doi.org/10.47191/ijmscrs/v4-i06-14, Impact Factor: 7.949

Lower Eyelid Reconstruction with Mustardé Flap

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ABSTRACT

Restoring defects in the lower eyelids, particularly those that extend beyond two-thirds, can be challenging, especially after tumor resection. Basal cell carcinoma (BCC) is the most common form of skin cancer, affecting the lower eyelid and inner canthus. Grafts are often combined with flaps for replacing the posterior lamella or anterior lamella. The Mustardé rotational cheek flap is a popular choice for reconstructing the anterior lamella of the lower eyelid, as it meets the basic requirements of an ideal cutaneous flap. This wide-based pedicle flap can support free grafts needed to line the inside of the flap. Other autogenous grafts, such as labial mucosa, hard palate mucoperiosteum, auricular cartilage, and nasoseptal cartilage, have also been used in eyelid reconstruction. However, hard palate mucosa transplants provide uniformity and can be expensive. Hughes procedures are not suitable for individuals with amblyogenic age or one-seeking eyes. Combining a vascular flap with a superior graft like pericranium may provide a viable surgical option for enduring functional and aesthetic outcomes.

KEYWORDS: Mustardé, flap, eyelid reconstruction

ARTICLE DETAILS

Published On:
08 june 2024

Available on:
https://ijmscr.org/

INTRODUCTION

Restoring defects of the lower eyelids that are both full-thick and wide (extending beyond two-thirds) may present difficulties, particularly when the defects surpass the limits of the eyelids and extend to the cheek or the medial canthal region. Such circumstances occur most frequently following tumor resection. The most prevalent form of skin cancer, basal cell carcinoma (BCC) accounts for 90% of malignant eyelid tumors, with a minor male preponderance. Most frequently, the lower eyelid and inner canthus are impacted. Involvement of the inner canthus is associated with the most bleak prognosis due to the aggressive histology and orbital invasion, which necessitate extensive excision. When replacing the posterior lamella (consisting of the tarsus and conjunctiva) or the anterior lamella (comprising the epidermis and orbicularis oculis muscle), grafts are frequently combined with flaps.

DISCUSSION

The utilization of a Mustardé rotational cheek flap to reconstruct the anterior lamella of the lower eyelid satisfies the fundamental requirements of an ideal cutaneous flap: the skin must be of superior color and texture, and it must be transferred into position during a single surgical procedure. Since its initial documentation by Mustardé in 1971, the advancement rotation temporo jugal skin flap has been predominantly employed to remove cheek, temple, and inferior eyelid tissue. Due to the profuse circulation and low incidence of necrosis, this wide-based pedicle flap is able to sustain the free grafts required to line the inside of the flap. Multiple autogenous grafts, including labial mucosa, hard palate mucoperiosteum, auricular cartilage, and nasoseptal cartilage, have been utilized in the past to repair the posterior lamella, according to previous reports.

In eyelid reconstruction, hard palate mucosa transplants are an outstanding substitute for the tarsus and conjunctiva. These provide remarkable uniformity, and a graft of sufficient magnitude can be acquired to rectify the complete length of the eyelid. Conversely, the labial mucosa graft is characterized by its excruciating pain, inadequate strength and size to sustain the lower eyelid, and significant postoperative shrinkage. Nevertheless, the patient presented with a medical history of recurrent aphthous stomatitis, which is a definitive contraindication for oral transplantation. Occasionally, nasoseptal or auricular cartilage transplants have been utilized; however, their excessive thickness and rigidity hinder the establishment of proper contact between the ocular and eyelid.

Vision is temporarily impaired in the afflicted eye for a number of weeks during this two-stage procedure, during which the flap pedicle remains undivided until adequate vascularization is determined. Hughes procedures are not considered the preferred treatment option for individuals with amblyogenic age or those with one seeing eye who require eyelid reconstruction on the side due to the transient closure of the eyelid. Moreover, on account of his non-Bicentralian residence, our patient was obligated to travel by air to and from every surgical procedure and appointment. He therefore requested to undergo the operation in a single procedure. The combination of an excellent vascular flap, such as the Mustardé rotational cheek flap, and a superior graft, such as the pericranium graft, increases the likelihood of achieving good aesthetic and functional results in a single surgical procedure, particularly in cases where extensive tissue loss was observed.

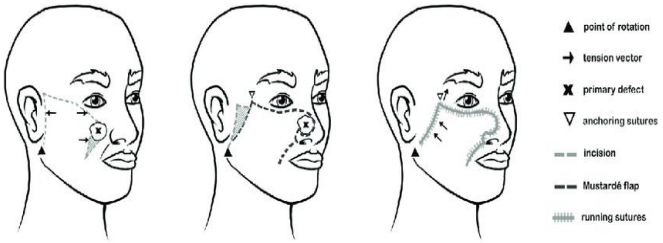

Figure 1. Incisions and vectors from original Mustardé technique

Figure 2. Mustardé flap in a female patient

SUMMARY

The internal canthus and reconstruction of the lower eyelid frequently present the oculoplastic surgeon with a formidable challenge. Utilizing pericranium in conjunction with a Mustardé flap may represent a viable surgical alternative for achieving enduring functional and aesthetic outcomes. By

delivering additional skin that is complementary in color and texture, the flap also guarantees sufficient blood flow to the pericranium graft that is affixed to the flap's subcutaneous layer. Large defects are adequately covered with tissue from the pericranial graft, which has an appropriate volume and a painless postoperative period.

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