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RECONSTRUCTION OF RESIDUAL DEFECT OF ALA OF THE NOSE BY PEDICLE NASO LABIAL FLAP DUE BASAL CELL CARCINOMA

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Abstract:
The nasolabial pedicle flap is a reliable and commonly used technique for reconstruction of residual alar defects of the nose. Careful surgical planning and execution are Key to achieving favorable functional and aesthetic outcomes.
The potential complications and risks associated with the nasolabial pedicle flap procedure for reconstructing alar defects of the nose include:
Careful patient selection, meticulous surgical technique, and close postoperative monitoring are essential to minimize these potential complications and optimize outcomes. Additionally, patient education and setting appropriate expectations are crucial for successful management.
Key words: BCC. Naso labial flap:

Introduction:

Basal cell carcinoma (BCC) is a type of skin cancer that arises from the basal cells, which are found in the deepest layer of the epidermis, the outermost layer of the skin. BCC commonly occurs on sun-exposed areas of the body, such as the face, particularly the nose (1). When BCC develops on the ala of the nose, which is the wing-like structure on either side of the nostrils, it can present specific challenges due to the location and potential involvement of nearby structures. The ala of the nose is an aesthetically important area, and the goal of treatment is to remove the cancer while preserving the function and appearance of the nose(2).

Case presentation:

The treatment options for basal cell carcinoma of the ala of the nose depend on various factors, including the size, depth, and location of the tumor, as well as the overall health of the individual. Here are some common treatment approaches:

Surgical excision: This involves removing the tumor along with a margin of healthy tissue. The size and depth of the tumor determine the extent of the excision. The wound may be closed directly or repaired with reconstructive techniques, such as skin grafts or local flaps, to restore the appearance of the nose.(3)

Mohs micrographic surgery: This specialized surgical technique is commonly used for BCC on the face, including the nose. The surgeon removes thin layers of tissue one at a time and examines them under a microscope. This process is repeated until no cancer cells are detected, ensuring minimal removal of healthy tissue.(4)

Radiation therapy: In some cases, radiation therapy may be used, particularly if surgery is not feasible or if the tumor has a high risk of recurrence. It involves using high-energy beams to target and destroy cancer cells. Radiation therapy is often used for elderly individuals or those with medical conditions that make surgery risky.(5)

Topical medications: Certain superficial BCCs on the nose may be treated with topical medications, such as imiquimod or 5-fluorouracil. These medications work by stimulating the immune system or directly killing cancer cells.

It's important to consult with a dermatologist or a healthcare professional who specializes in skin cancer to determine the most appropriate treatment approach for basal cell carcinoma of the ala of the nose. They can evaluate your specific case and provide personalized recommendations based on the characteristics of the tumor and your overall health(6)

Certainly! Reconstructive techniques are often employed to restore the appearance and function of the nose after surgical excision of basal cell carcinoma (BCC) on the ala of the nose. The choice of technique depends on various factors, including the size and location of the defect, the availability of local tissue, and the individual's overall health. Here are some common reconstructive techniques used:

Primary Closure: In cases where the defect is small and the skin surrounding the excision site is lax, primary closure may be possible. The wound edges are carefully aligned and stitched together, allowing the skin to heal naturally. This technique is ideal for smaller defects that can be closed without undue tension.

Skin Grafts: Skin grafting involves taking a thin layer of skin, called a graft, from another part of the body and placing it over the defect on the nose. The donor site can be from the same area (such as the nearby cheek) or a different location, such as the ear or the inner part of the upper arm. Skin grafts may be full-thickness or split-thickness grafts, depending on the depth and size of the defect. The graft is secured in place and left to heal, eventually blending with the surrounding skin(7)

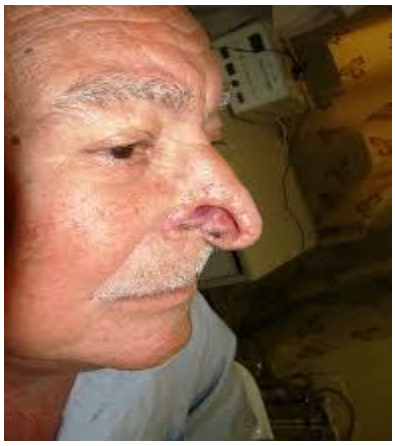
Local Flaps: Local flaps use adjacent healthy tissue, which is still connected to its blood supply, to reconstruct the defect. The tissue is rearranged and rotated to cover the defect, maintaining its blood flow. There are various types of local flaps that can be used, such as advancement flaps, rotation flaps, or transposition flaps. These techniques allow for a more precise reconstruction, and the tissue used closely matches the color, texture, and contour of the nose.

Nasolabial Flap: The nasolabial flap is a specific type of local flap commonly used for reconstructing defects on the ala of the nose. It involves transferring a flap of skin and subcutaneous tissue from the side of the nose near the cheek (nasolabial region) to cover the defect. The flap is carefully designed and elevated, preserving its blood supply, and then rotated into place to reconstruct the alar defect.

Paramedian Forehead Flap: In cases where the defect is larger and involves the ala of the nose, a paramedian forehead flap may be considered. This technique involves using a flap of skin and underlying tissue from the forehead, based on the supratrochlear and supraorbital arteries. The flap is tunneled down to the nose and used to reconstruct the defect. After a period of healing, the pedicle connecting the flap to the forehead is divided, and the remaining tissue is reshaped to blend with the surrounding structures(8)

These are just a few examples of the reconstructive techniques used for nasal reconstruction after BCC excision. The choice of technique is highly individualized and depends on various factors, including the size of the defect, available donor tissue, and the expertise of the surgeon. A skilled plastic surgeon or dermatologist with experience in facial reconstruction can evaluate your specific case and recommend the most appropriate technique for you. figure (1)

What are the advantages of using local flaps compared to other reconstructive techniques?



Figure(1) patient after surgical excision of basal cell carcinoma (BCC) on the ala of the nose

Local flaps offer several advantages compared to other reconstructive techniques for nasal reconstruction after surgical excision of basal cell carcinoma (BCC) on the ala of the nose. Here are some advantages of using local flaps:

Tissue Match: Local flaps utilize adjacent healthy tissue from the same region as the defect, ensuring a close match in terms of color, texture, and contour. This leads to a more natural and aesthetically pleasing result compared to other techniques that involve distant donor sites(9)

Vascular Supply: Local flaps are based on tissue that is still connected to its blood supply. This ensures sufficient blood flow to the flap, promoting healing and reducing the risk of flap failure. The preserved blood supply also allows for reliable reconstruction of larger defects.

Minimizing Donor Site Morbidity: Unlike distant donor sites, local flaps use tissue from the nearby region, minimizing the morbidity associated with harvesting tissue from other parts of the body. This can result in

reduced scarring, faster healing, and less pain or discomfort at the donor site.

Similar Skin Quality: The skin in the surrounding area of the defect usually has similar qualities to that of the ala of the nose. By using local flaps, the reconstructed area maintains similar skin thickness, elasticity, and sebaceous gland distribution, leading to improved functional and cosmetic outcomes(12)

Single-Stage Reconstruction: In many cases, local flaps allow for a single-stage reconstruction, meaning that the entire procedure can be completed in one surgical session. This can reduce the overall treatment time and limit the number of visits to the operating room.

Versatility: There are various types of local flaps available, each with its own advantages and indications. Surgeons can choose the most appropriate local flap technique based on the specific characteristics of the defect and the patient's anatomy. This versatility allows for customized reconstruction, optimizing the outcome for each individual case(9)

It's important to note that the choice of reconstructive technique depends on many factors, including the size and location of the defect, the availability of local tissue, and the surgeon's expertise. A thorough evaluation by a skilled plastic surgeon or dermatologist is essential to determine the most suitable technique for nasal reconstruction after BCC excision.

The surgical technique used for a nasolabial flap in the reconstruction of the ala of the nose after surgery involves several steps. Here is a general outline of the procedure:

Preoperative Planning: The surgeon will carefully evaluate the defect on the ala of the nose and the surrounding anatomy. They will assess the size, shape, and depth of the defect, as well as the availability and quality of the nasolabial tissue. Preoperative markings will be made to outline the flap design and donor site(10)

Anesthesia: Local anesthesia with or without sedation is typically used for this procedure. The surgeon will determine the most appropriate anesthesia option based on the patient's preferences and the extent of the reconstruction.

Flap Design: The nasolabial flap is designed along the nasolabial fold, which is the natural crease that runs from the side of the nose to the corner of the mouth. The design is tailored to match the size and shape of the defect. The flap is typically based on the superior labial artery, a branch of the facial artery.

Flap Elevation: An incision is made along the marked design, extending from the nasolabial fold up to the ala of the nose. The flap is carefully elevated in a subcutaneous plane, preserving its blood supply. The dissection continues until the flap can reach the defect without tension(11).

Flap Transposition: Once the flap is sufficiently mobilized, it is transposed and inset into the defect on the ala of the nose. The surgeon carefully positions the flap to match the contour and alignment of the surrounding structures. Sutures are used to secure the flap in place.

Closure: The incisions made during the elevation of the nasolabial flap are closed using sutures. The surgeon ensures proper alignment and tension-free closure to optimize wound healing.

Postoperative Care: Dressings and/or sutures may be placed on the surgical site to protect the flap and provide support. The patient will receive instructions on postoperative care, such as wound care, medication management, and follow-up appointments(12)

It's important to note that the specific details of the surgical technique may vary depending on the individual case and the surgeon's preferences. The procedure requires the expertise of a skilled plastic surgeon or dermatologist experienced in facial reconstruction. They will evaluate the patient's unique circumstances and tailor the surgical technique accordingly to achieve optimal functional and aesthetic outcomes(9)

The time taken for complete healing of a nasolabial flap used in the reconstruction of the ala of the nose can vary depending on several factors, including the size and complexity of the defect, the individual's healing ability, and postoperative care. Generally, the initial healing of the flap occurs within a few weeks, but complete healing and the final aesthetic outcome may take

Figure (2)Postoperative the flap may appear swollen, bruised.

several months. Here is a general timeline: Immediate Postoperative Period: In the first few days after surgery, the flap may appear swollen, bruised, and have some temporary changes in sensation. Dressings and/or sutures will be in place to protect the flap and promote initial healing.Figure (2)

Early Healing Phase: During the first two to three weeks, the flap gradually establishes blood supply and starts to heal. The swelling and bruising should begin to subside, and the initial wound healing process occurs. It is essential to follow the surgeon's instructions regarding wound care, medication, and any activity restrictions during this phase.

Intermediate Healing Phase: Over the next few weeks to months, the flap continues to heal and integrate into its new location. The color and texture of the flap may evolve during this time as the tissues remodel. Some minor changes or adjustments in the appearance of the flap are expected as the healing progresses.

Final Healing and Maturation: The final healing and maturation of the flap can take several months. During this period, the tissues continue to refine, and the flap gradually assimilates with the surrounding structures. The scar may undergo further changes, becoming less noticeable and blending with the surrounding skin.(11)

It's important to note that individual healing rates can vary, and the timeline provided is a general guideline. Your surgeon will monitor your progress during follow-up visits and provide you with specific instructions on wound care, activity restrictions, and expected healing milestones. They will be able to give you a more accurate estimation of the healing timeline based on your unique case(2)

Certainly! Postoperative care instructions for a nasolabial flap after reconstruction of the ala of the nose are crucial to ensure proper healing and optimal outcomes. Here are some general guidelines:

Dressings: The surgeon may place dressings over the surgical site to protect the flap and provide support. Follow their instructions regarding when and how to change the dressings. It's essential to keep the area clean and dry as instructed.

Wound Care: Proper wound care is essential for the healing of the flap. Your surgeon will provide specific instructions on how to clean the wound and apply any prescribed ointments or dressings. Use gentle techniques to cleanse the area, avoiding excessive rubbing or scrubbing.

Medication Management: Your surgeon may prescribe medications to manage pain, prevent infection, and promote healing. Take all medications as directed, following the prescribed dosage and schedule. If you experience any adverse reactions or have concerns about the medications, contact your surgeon promptly.(1)

Activity Restrictions: It's important to follow any activity restrictions provided by your surgeon. Avoid activities that may put undue stress or tension on the flap, such as rigorous exercise, heavy lifting, or activities that involve excessive facial movements. Gradually increase your activity level as advised by your surgeon.

Protecting the Flap: Be mindful of protecting the flap from trauma or injury. Avoid touching or rubbing the surgical site unnecessarily. Protect the area from excessive sunlight, wind, and extreme temperatures. Your surgeon may recommend using sunscreen or protective clothing to shield the flap from UV radiation(1)

Follow-up Appointments: Attend all scheduled follow-up appointments with your surgeon. These visits are essential for monitoring your healing progress, removing sutures if necessary, and addressing any concerns or questions you may have.

The healing process for a nasolabial flap used in the reconstruction of the ala of the nose typically takes several weeks to months. However, it's important to note that the exact healing timeline can vary depending on various factors, including the individual's overall health, the size and complexity of the defect, and postoperative care(13). Here is a general overview of the healing process:

Initial Healing (1-2 weeks): During the first week or two after surgery, the focus is on the initial healing of the flap. The surgical site may be swollen, bruised, and tender. Dressings and/or sutures are typically in place to protect the flap and facilitate healing. The incisions begin to heal, and the blood supply is established between the flap and the recipient site.

Early Healing (2-4 weeks): In the following weeks, the swelling and bruising gradually subside. The flap starts to integrate into the surrounding tissues, and the initial wound healing progresses. The sutures may be removed, depending on the surgeon's instructions. It's important to follow the surgeon's guidelines regarding

wound care, activity restrictions, and any prescribed medications during this period.(9)

Maturation (1-3 months): Over the next several weeks to months, the flap undergoes maturation and remodeling. The tissues continue to heal, and the flap assimilates with the surrounding structures. The color and texture of the flap may evolve during this time. Some minor changes in

Figure (3) The final healing and scar maturation of the nasolabial flap

the appearance of the flap are expected as the healing progresses.

Final Healing and Scar Maturation (3-6 months): The final healing and scar maturation of the nasolabial flap can take several months. During this period, the tissues refine, and the scar gradually fades and becomes less noticeable. The flap should have a more natural appearance and blend with the surrounding skinFigure (3) . It's important to note that individual healing rates can vary, and the timeline provided is a general guideline. Your surgeon will monitor your progress during follow-up visits and provide you with specific information regarding your healing timeline. They will also guide you on when it is safe to resume normal activities, such as sun exposure, exercise, and other daily routines.(3)

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