Surgical Reconstruction of Cocaine-Induced Cleft Lip: A Case Report

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ABSTRACT

Introduction: Cocaine is known to cause necrosis of the soft tissues secondary to its vasoconstrictive effects, which has negative functional and cosmetic outcomes of the midface and adjacent structures. To our knowledge, cleft lip caused by cocaine use has not been described in the literature.

Case Presentation: A 52-year-old man presented with a deformity of the lip and nasal sill, septal perforation, and hard palate fistula secondary to long-term cocaine use. The patient underwent lip reconstruction using a modified Millard technique and had a lasting favorable cosmetic outcome more than 5 years after surgery.

Discussion: We report a case of cocaine abuse causing cleft lip, and successful reconstruction with a modified Millard technique.

INTRODUCTION

Cocaine is known to cause necrosis of the soft tissues secondary to its vasoconstrictive effects, which has negative functional and cosmetic outcomes of the midface and adjacent structures. This necrosis can lead to nasal collapse and central midface destruction, commonly involving the nasal septum, lateral nasal wall, and/or hard palate. To our knowledge, there are no reports of acquired cleft lip from cocaine abuse. We report a case of intranasal cocaine use causing a cleft lip deformity, and successful reconstruction with a modified Millard technique. This case was presented as a poster at the 2019 Triological Society Combined Sections Meeting, January 24, 2019, to January 26, 2019, Coronado, CA.

CASE PRESENTATION

Presenting Concerns

A 52-year-old man presented with a deformity of the lip and nose, septal perforation, and hard palate fistula secondary to long-term cocaine use of 30 years. The patient had been fitted with a palatal obturator in the past with excellent phonation and no nasal regurgitation. He wore a surgical facemask in public on a daily basis to conceal his deformity. On examination, the patient had a large cleft lip-appearing deformity that exposed the alveolus and nasal floor and erosion of gingiva with exposure of the 9th and 10th tooth roots. Because of loss of the orbicularis muscle continuity, the patient had a classic-appearing cleft lip deformity. The columella was shifted to the non-cleft side, and the nasal ala on the cleft side was displaced laterally and inferiorly. There was erosion of the left nasal sill and loss of the anterior septum as well as a ptotic nasal tip (Figure 1). The midhard palate demonstrated a 1-cm fistula.

Therapeutic Intervention and Treatment

Although the patient was anxious to have the surgery, it was cancelled several times by multiple surgeons because of the patient’s continued cocaine use, the surgeons’ concern for poor wound healing, and the patient’s unavailability for follow-up. After 3 years, the patient eventually was able to agree to stop using cocaine for at least 2 months. He also agreed to monthly urine testing. After a 2.5-month period of cocaine abstinence (the longest the patient had gone in decades), he was taken to the operating room for lip reconstruction using a modified Millard technique. The 9th and 10th teeth had been previously extracted at this point. The medial and lateral mucosal flaps were raised. The orbicularis muscles were separated from the skin. The incision was carried around the left ala into the nasal floor to release the alar base. The inferior columella formed a thin band of tissue, which was left intact. The mucosa was secured to the L-flap to close off the nasolabial fistula, and the muscle was reapproximated. The mucosal M-flap was partially deepithelialized and approximated to the lateral ala for nasal sill volume. A triangular flap was inset to prevent straight-line contracture. During the procedure, notable fibrosis of the soft tissues with reduced vascularity was noted.

Eleven days postoperatively, the patient was found to have a V-shaped dehiscence that measured 8 mm at the nasal sill. This dehiscence was evaluated 10 days later and was healed in with granulation tissue (Figure 2); however, there was breakdown of

Figure 1. A. Frontal view of cleft lip-appearing defect with erosion of gingiva and ptotic nasal tip seen during preoperative assessment. B. Lateral view of cleft lip-appearing defect with ptotic nasal tip seen during preoperative assessment.

Figure 2. A. Frontal view of hypertrophic scarring and induration seen 3 weeks after surgery. B. Basal view of hypertrophic scarring 3 weeks after surgery.

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The upper lip in the gingivobuccal sulcus, forming a small nasolabial fistula. One month postoperatively, the surgical incisions were healing well. Although the nasal sill remained deficient, the nasolabial fistula was mostly closed with some fibrinous exudate.

Follow-up and Outcomes

The patient was seen again 8 months postoperatively and demonstrated fairly good symmetry of the upper lip. The nasolabial fistula was still present. The previously exposed tooth roots were now covered with mucosa. During the patient’s 1-year follow-up visit, he was noted to have a ptotic, though stable, nasal tip with a thin columellar skin band. At this time, repair of the nasolabial fistula was deferred given that the patient had minor symptoms and to avoid the risk of devascularizing the surgical bed.

At 5.5 years from the time of surgery, the patient had an excellent cosmetic outcome, although the nasolabial fistula remained (Figure 3). The nasal tip remained ptotic (Figure 4) with a soft tissue band of columella, although this was overall improved compared to his preoperative state. A timeline of the case appears in Figure 5.

DISCUSSION

Cocaine can cause destruction of the midface structures with long-term intranasal use because of its vasoconstrictive effects. Nasal collapse, septal perforation, and palatal erosion have been well documented in the literature. In this case, cocaine use led not only to a palate fistula but also to a cleft lip deformity over time. To our knowledge, there are no reports of acquired cleft lip from cocaine abuse.

This case was challenging because of the patient’s struggles with cocaine abuse, and a longer period of abstinence would have been more ideal for wound healing. Some groups advocate a strict period of drug abstinence of at least 18 months prior to pursuing surgery. This patient developed a chronic nasolabial fistula postoperatively, which was not repaired because of its asymptomatic nature. However, given the robust and stable state of this patient’s surgical site, safe repair is thought to be feasible in the future, although care must be taken not to devascularize the tissue. In addition, the patient’s hard palate fistula was not repaired given that it was well managed with his obturator. Notably, the successful implementation of local, regional, and free flaps for hard and soft palate reconstruction has been described in the setting of cocaine-related defects.

Millard desribed the rotation-advancement repair of the unilateral cleft lip in 1955, and most surgeons today employ some variation of this technique for these repairs. This patient had a lasting favorable aesthetic outcome of his lip repair more
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than 5 years after surgery. This case demonstrates a novel presentation of cocaine-induced cleft lip and viability of the modified Millard technique in its repair.

CONCLUSION
Although surgical reconstruction of acquired cocaine-induced midface defects have been described in the literature, we are the first, to our knowledge, to report a case of cocaine-induced cleft lip and demonstrate viable reconstruction with a modified Millard technique.

Disclosure Statement
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References