Setup of Columellar Height with Costal Cartilage Graft Modification in a Patient with Binder Syndrome

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Abstract

Binder syndrome is an uncommon disorder of unknown etiology. It is characterized by hypoplasia of the nose and maxilla and altered morphology of the associated soft tissue. We present a surgical technique for setting up the columellar height in a patient with Binder syndrome.

Keywords: Binder syndrome, columellar height, costal cartilage graft

INTRODUCTION

Binder’s syndrome, defined by von Binder¹ in 1962, is a rare disorder of unclear etiology characterized by nasal-maxillary hypoplasia and concomitant soft tissue anomalies.² Insufficient columellar soft tissue and agenetic bone structure are the primary challenges in reconstruction.³

This study aimed at presenting the delayed nasal reconstruction procedure performed on a case with Binder’s syndrome with isolated nasal hypoplasia and a previous iliac bone graft reconstruction by reshaping the costal cartilage graft to alter the columellar height.

CASE PRESENTATION

A 39-year-old female patient presented to our clinic with complaints of difficulty in breathing through her nose and a depression on the nose bridge (Figure 1). The patient had a nasal reconstruction with iliac bone graft for Binder’s syndrome 30 years ago. A platyrhine nose, a wide nasofrontal angle, and insufficient columella were identified in the physical examination. Open structure septrhinoplasty was applied. Given the intraoperative insufficient cartilage-bone support, costal cartilage graft was planned for the reconstruction. The resected costal cartilage graft was split and carved in a T-shape, the shorter branch of the T was positioned on the longer branch to alter the columellar height, and the graft was reshaped into an L (Figure 2). The shorter branch of the L was fixed on the agenetic nasal spine with the help of a suture. The longer branch of the L was placed so as to form the dorsum of the nose. The height of the dorsum was increased by applying mastoid fascia graft to the dorsum of the nose. No complications were observed in the postoperative period. In the late postoperative period (second year), the patient did not have any difficulties in breathing through her nose, the saddle nose deformity was corrected, and columellar support was at a sufficient level (Figure 3).
DISCUSSION

There are no commonly accepted standard treatment choices for isolated nasal reconstruction in cases with Binder’s syndrome. In nasal reconstruction, the goal is to lengthen the nose, enable sufficient tip projection, and lengthen the columella by increasing the tension of the columellar soft tissues. Cranial bone grafts, iliac bone grafts, and costal and ear cartilage grafts are the available choices. Applying an L-shaped costal cartilage graft is a standard method used in many corrective rhinoplasty procedures as well as in Binder’s syndrome cases. The branches of the costal cartilage graft are individually carved and positioned. In this case, each of the two cartilage grafts were individually carved and then molded into a T-form, and the shorter branch was shifted on the longer branch and cut off at the appropriate height.

CONCLUSION

In the technique that we have employed in our case, manipulation of the costal cartilage graft enabled alteration of the...

Figure 1. Patient’s preoperative view

Figure 2. Carving of the costal cartilage graft into a T-shape (left) and altering of the length of the columella (right)

Figure 3. Patient’s postoperative frontal and side views in the second year
columella length and tip height as desired (within the limits that would not cause columellar insufficiency), and a satisfactory result was achieved.

**Informed Consent:** Written informed consent was obtained from patient who participated in this case.

**Peer-review:** Externally peer-reviewed.


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**REFERENCES**