Management of Birth-Associated Nasal Trauma, Case report and review of the literature

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INTRODUCTION

The reported incidence of perinatal nasal trauma approaches 1% among newborn deliveries1. Anterior septal dislocations account for the majority of these injuries, owing to the unique support system of the neonatal nose. The dorsoseptal cartilage is the major structural element of the neonatal nose, containing a complex of immature septal and upper lateral cartilages in a T-bar configuration. Bony elements such as the perpendicular plate and vomer have not yet ossified, and the nasal aperture is typically too posterior to contribute structural support. Injury patterns are therefore dictated by the attachments of the dorsoseptal cartilage, with rigid attachment to the nasal spine via the septospinal ligament leading to anterior dislocations along the immature maxillary crest and septovomerual junction. Fracture of the dorsoseptal cartilage may also occur, typically along the peripheral margins away from the thickened growth centers.

Anterior septal dislocation should be considered in any neonate with signs of nasal obstruction or feeding intolerance, with clinical findings including unilateral tip deviation, columellar leaning and flattening of the nasal aperture (Figure 1). While surgical reduction has been recommended within three days of life2, presentation of symptoms may be delayed and exacerbated by iatrogenic injury from nasotracheal intubation or continuous positive airway pressure (CPAP)3. Other causes of neonatal nasal obstruction must also be considered, including pyriform aperture/choanal stenosis and cysts of the nasolacrimal duct or dental alveolus.

METHODS

Case series with review of the literature

Case Series: Two patients, age 5 and 11 days, were referred for evaluation of nasal deformity with stertor and feeding intolerance following difficult deliveries with cephalic presentation. Examination revealed nasal deformity with anterior tip deflection and contralateral septal deviation. Operative closed reduction was accomplished utilizing blunt septoplasty instrumentation with placement of a single Telfa roll in the previously obstructed nare. Postoperatively patients undergo airway observation, with removal of the nasal packing on postoperative day five.

RESULTS

Two neonates, age 5 and 11 days, were found to have anterior septal dislocations following difficult deliveries with cephalic presentation. Examination revealed nasal deformity with caudal tip deflection and contralateral obstruction with apposition of the displaced septum upon the inferior turbinate. Following closed reduction with unilateral splinting, both patients displayed immediate improvement in feeding intolerance and stertor, and remained stable until the nasal packing was removed on postoperative day five. Both patients have been followed for 28 months, and have not developed recurrence of nasal obstruction.

REFERENCES


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