INTRODUCTION

- Early bilateral fusion of the coronal sutures results in compensatory growth in a parallel, atypical fashion. This produces a characteristically widened skull and flat forehead from growth restriction in the anterior-posterior (AP) dimension (brachycephaly), with a vertically elongated midvault from growth in the vertical plane (turricephaly). Although there is variability in the type of intervention and timing of treatment, most centers intervene in the first year of life in order to alleviate restriction of brain growth, minimize risk of secondary deformity and normalize differences in appearance.

OBJECTIVE

- Traditional treatment involves bilateral fronto-orbital advancement (FOA)—removal, reshaping and repositioning of the frontal bones and superior orbital rims. Delayed FOA, following early posterior vault distraction can also be performed. Endoscopic-assisted strip craniectomy has been shown to be a successful treatment option, with decreased blood loss and length of stay, shorter operative time, and fewer ICU admissions.
- Prospective craniometric analyses to assess the morphologic outcome of an urgent endoscopic-assisted approach to bicoronal synostosis, evaluation of scar placement (for use in future surgeries) and wound healing (cosmesis).

METHODS

- Two 2-centimeter incisions were made on the lateral scalp bilaterally, parallel to the blood supply, in-line with future planned incisions, and allowing for adequate calvarial access.

RESULTS

- The patient is a full-term female, with widely splayed sutures and concern for development of increased ICP, possible syndromic craniosynostosis, midface hypoplasia, nasal congestion/obstruction, admitted for cyanotic episodes during feeding. Endoscopic evaluation showed narrow, but otherwise normal sinuses. Echocardiogram and ophthalmologic examination were normal. CT head confirmed bicoronal synostosis and diastasis of her remaining sutures. Endoscopic-assisted strip craniectomy of bilateral coronal sutures was performed at 21 days of life. Operative time was 86 minutes and blood loss was 20 mL. The patient did not need perioperative transfusion and was discharged in 48 hours. Genetic testing is pending.

CONCLUSION

- Early endoscopic intervention in a patient with bicoronal synostosis, concern for widely splayed sutures and development of increased ICP can allow for decreased morbidity and enhanced recovery.
- Endoscopic approach, with thoughtfully placed incisions can allow for decreased operative time, decreased need for transfusion, shorter length of stay, and improved cosmesis.

REFERENCES