

## Metopic synostosis

**Natasha Gupta, Blankstein Josef**

### ABSTRACT

Abstract is not required for Clinical Images

 All Articles Open Access

## International Journal of Case Reports and Images (IJCRI)



International Journal of Case Reports and Images (IJCRI) is an international, peer reviewed, monthly, open access, online journal, publishing high-quality, articles in all areas of basic medical sciences and clinical specialties.

Aim of IJCRI is to encourage the publication of new information by providing a platform for reporting of unique, unusual and rare cases which enhance understanding of disease process, its diagnosis, management and clinico-pathologic correlations.

IJCRI publishes Review Articles, Case Series, Case Reports, Case in Images, Clinical Images and Letters to Editor.

**Website: [www.ijcasereportsandimages.com](http://www.ijcasereportsandimages.com)**

# Metopic synostosis

Natasha Gupta, Blankstein Josef

## CASE REPORT

A 35-year-old female delivered a male infant prematurely at 33 weeks. Neonate weighed 1930 grams at birth and was noted to have a keel like protrusion of the forehead, hypertelorism, narrow temples and fused metopic suture. All the other sutures were noted to be open. A detailed karyotype assessment of the neonate was normal, thus no genetic etiology could be identified. This was considered to be a case of isolated metopic synostosis or single suture craniosynostosis, also referred to as nonsyndromic craniosynostosis. We managed this case with surgical repair which is the mainstay of treatment in craniosynostosis. We present here the 3D reconstructed images from computed tomography scan of the neonate's skull (Figures 1 and 2).

## DISCUSSION

Metopic synostosis is a type of craniosynostosis where metopic suture of the fetal skull fuses prematurely leading to a skull malformation called trigonocephaly (triangular forehead) and low volume of anterior cranial fossa. This leads to impaired skull and brain growth. It is associated with advanced maternal age, male fetuses, multiple births, preterm gestation and low birth weight infants [1]. Incidence of metopic synostosis has been increasing over last few years, although incidence of other craniosynostosis including sagittal, unicoronal and multisutural has remained unchanged [1]. The increase

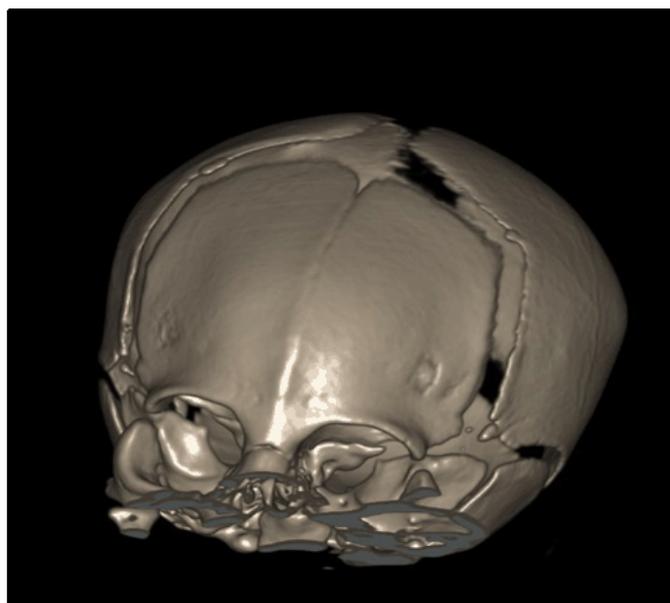


Figure 1: 3D reconstruction of skull from computed tomography scan showing prematurely fused metopic suture.

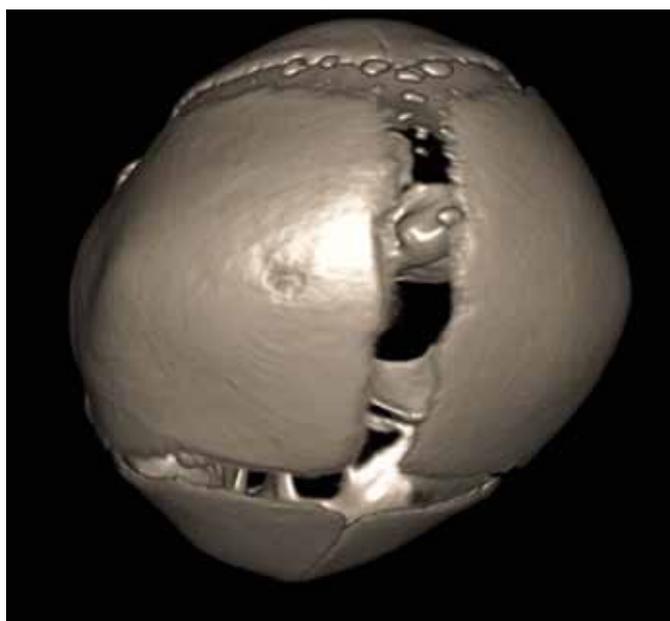


Figure 2: Computed tomography scan showing other sutures including sagittal, coronal and lambdoid open and a closed metopic suture.

Natasha Gupta<sup>1</sup>, Blankstein Josef<sup>1</sup>

Affiliations: <sup>1</sup>MD, Department of Obstetrics and Gynecology, Mount Sinai Hospital, 1500 S California Ave, Chicago

Corresponding Author: Natasha Gupta, Department of Obstetrics and Gynecology, Mount Sinai Hospital, 1500 S California Ave, S Washtenaw Ave, Unit 1, Chicago, IL, 60608.; Phone No: 248-464-0451; Fax: 773-257-6359; Email: docnatasha3@gmail.com

Received: 21 December 2012

Accepted: 03 August 2013

Published: 01 March 2014

in incidence of metopic synostosis may be attributable to increasing incidence of these risk factors. The primary modality of treatment is surgical repair, performed prior to 1 year of age, which traditionally consists of bifrontal craniotomy, skull contouring, bilateral fronto-orbital advancement and placement of a bone graft to increase the width of fronto-orbital bar. This surgical approach is safe with minimal complication rate, short length of hospital stay and great aesthetic outcome [2]. A newer endoscopic approach with all the acknowledged advantages of a minimally invasive procedure over an open surgery is also emerging [3].

## CONCLUSION

Uncorrected synostosis may cause increase in intracranial pressure and progression of craniofacial deformity.

### How to cite this article

Gupta N, Josef B. Metopic synostosis. International Journal of Case Reports and Images 2014;5(3):244–246.

doi:10.5348/ijcri-2014-03-483-CL-14

\*\*\*\*\*

## Author Contributions

Natasha Gupta – Conception and design, Drafting the article, Revision of the article, Final approval of the version to be published

Josef Blankstein – Analysis and interpretation of data, Revision of the article, Final approval of the version to be published

## Guarantor

The corresponding author is the guarantor of submission.

## Conflict of Interest

Authors declare no conflict of interest.

## Copyright

© Natasha Gupta et al. 2014; This article is distributed under the terms of Creative Commons attribution 3.0 License which permits unrestricted use, distribution and reproduction in any means provided the original authors and original publisher are properly credited. (Please see [www.ijcasereportsandimages.com/copyright-policy.php](http://www.ijcasereportsandimages.com/copyright-policy.php) for more information.)

## REFERENCES

1. Lee HQ, Hutson JM, Wray AC, et al. Changing epidemiology of nonsyndromic craniosynostosis and revisiting the risk factors. *The Journal of craniofacial surgery* 2012 Sep;23(5):1245–1.
2. Engel M, Thiele OC, Mühling J, et al. Trigonocephaly: Results after surgical correction of nonsyndromic isolated metopic suture synostosis in 54 cases. *J Craniomaxillofac Surg* 2012 Jun;40(4):347–53.
3. Hinojosa J. Endoscopic-assisted treatment of trigonocephaly. *Childs Nerv Syst* 2012 Sep;28(9):1381–7.

## ABOUT THE AUTHORS

**Article citation:** Gupta N, Josef B. Metopic synostosis. International Journal of Case Reports and Images 2014;5(3):243–245.



**Natasha Gupta** is Chief Resident in Department of Obstetrics and Gynecology at Mount Sinai Hospital, Chicago. Her research interests include Gynecologic Cancers. She intends to pursue a fellowship in Gynecologic Oncology after completing her residency.

Access full text article on  
other devices



Access PDF of article on  
other devices



## Edorium Journals: An introduction

Edorium Journals Team

### About Edorium Journals

Edorium Journals is a publisher of high-quality, open access, international scholarly journals covering subjects in basic sciences and clinical specialties and subspecialties.

#### Invitation for article submission

We sincerely invite you to submit your valuable research for publication to Edorium Journals.

### But why should you publish with Edorium Journals?

In less than 10 words - we give you what no one does.

#### Vision of being the best

We have the vision of making our journals the best and the most authoritative journals in their respective specialties. We are working towards this goal every day of every week of every month of every year.

#### Exceptional services

We care for you, your work and your time. Our efficient, personalized and courteous services are a testimony to this.

#### Editorial Review

All manuscripts submitted to Edorium Journals undergo pre-processing review, first editorial review, peer review, second editorial review and finally third editorial review.

#### Peer Review

All manuscripts submitted to Edorium Journals undergo anonymous, double-blind, external peer review.

#### Early View version

Early View version of your manuscript will be published in the journal within 72 hours of final acceptance.

#### Manuscript status

From submission to publication of your article you will get regular updates (minimum six times) about status of your manuscripts directly in your email.

### Our Commitment

#### Six weeks

You will get first decision on your manuscript within six weeks (42 days) of submission. If we fail to honor this by even one day, we will publish your manuscript free of charge.

#### Four weeks

After we receive page proofs, your manuscript will be published in the journal within four weeks (31 days). If we fail to honor this by even one day, we will publish your manuscript free of charge and refund you the full article publication charges you paid for your manuscript.

#### Mentored Review Articles (MRA)

Our academic program "Mentored Review Article" (MRA) gives you a unique opportunity to publish papers under mentorship of international faculty. These articles are published free of charges.

#### Most Favored Author program

Join this program and publish any number of articles free of charge for one to five years.

#### Favored Author program

One email is all it takes to become our favored author. You will not only get fee waivers but also get information and insights about scholarly publishing.

#### Institutional Membership program

Join our Institutional Memberships program and help scholars from your institute make their research accessible to all and save thousands of dollars in fees make their research accessible to all.

#### Our presence

We have some of the best designed publication formats. Our websites are very user friendly and enable you to do your work very easily with no hassle.

#### Something more...

We request you to have a look at our website to know more about us and our services.

We welcome you to interact with us, share with us, join us and of course publish with us.



Edorium Journals: On Web



Browse Journals

CONNECT WITH US

