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Neonatal Craniosynostosis

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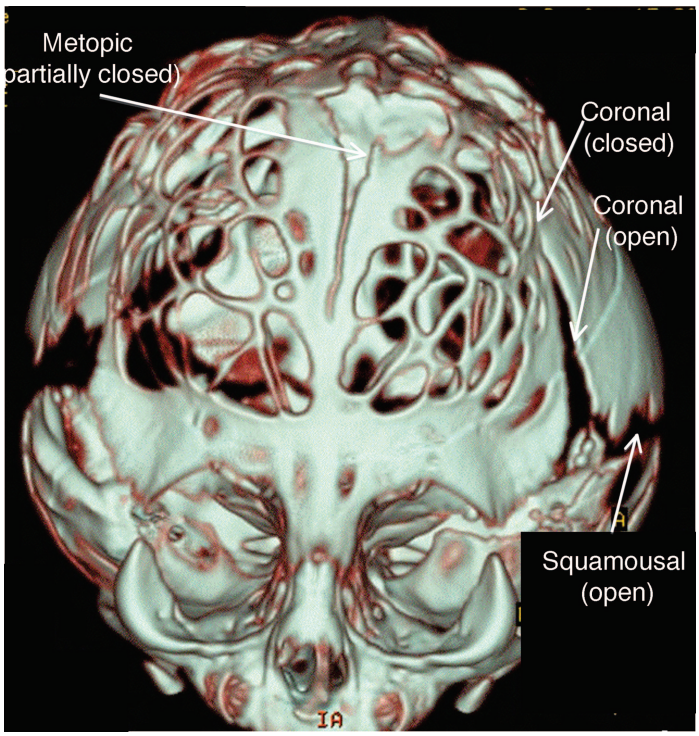

CRANIOSYNOSTOSIS is a congenital anomaly in which cranial sutures close prematurely and/or abnormally. Left uncorrected, craniosynostosis will lead to increased intracranial pressure and compression of the brain leading to seizures, developmental delay, and abnormal appearance. Therefore, surgical correction is recommended and delay of surgery to an older age is discouraged. Infants with craniosynostosis usually present for surgical repair between the ages of 4 and 9 months. Rarely, neonatal craniosynostosis, as in this patient, will be seen.

Infants with craniosynostosis present challenges to the anesthesiologists in airway management, blood transfusion, and coagulation therapy.[1,2] Because of the abnormal head shape in these infants, positioning for intubation must be done carefully. For surgery done in first 4 months of life, the physiologic nadir of hemoglobin often coincides with the surgery, leading to increased need for intraoperative transfusion. In this case, the infant had surgery earlier than usual, increasing the risk of transfusion and need for postoperative intensive care.[3] The early timing of the surgery (patient was 5 weeks old and weighed 4 kg) was due to the evidence of impingement of brain growth seen in the image.

With premature closure of some of the cranial sutures, the growing brain and cranial contents bulge open other sutures and cause a misshapen head as can be seen with three-dimensional computed tomography scan (done at 3 days of life). Because of the prenatal and premature suture closures including the metopic and sagittal sutures, the growing brain in this confined skull causes forces resulting in enlarged squamousal sutures. In rare cases, the meninges are pushed into the skull, causing the lattice appearance on computed tomography scan.

References

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