Cranioplasty for Isolated Trigonocephaly with Developmental Disorder

Satoshi Shimabukuro, M D, Takeyoshi Shimoji, M D and Seiichi Sugama, M D
Departments of Pediatrics (SS) and Neurosurgery (TS),
Okinawa Prefectural Naha Hospital, Naha, Okinawa ; Department of Pediatrics,
Tokyo Metropolitan Maternity and Child Health Institute, Tokyo (SSu)

We reported 50 cases of mild to moderate trigonocephaly (most isolated type) treated by cranioplasty. All of them had clinical symptoms such as severe hyperactivity, speech delay, inability to communicate with others, self-mutilation (head banging), irritability, temper tantrum and mental retardation. Pre-operative CT scan and MRI showed no abnormal findings in the brain except for constricted frontal lobes. The 3 D-CT scan showed the most important diagnostic findings : a ridge of the metopic suture and narrow anterior fossa. TcECD SPECT was performed on 43 patients, and demonstrated in 31 cases some degree of decreased cerebral blood flow (CBF), mainly in the bilateral frontal lobes.

Post-operatively, most patients improved to some degrees. The results were compared to those of trigonocephaly patients without cranioplasty. The operated group showed better improvement in the above clinical symptoms, especially, hyperactivity, indifference to others, understanding of verbal communication, self-mutilation, irritability and temper tantrum.

The post-operative SPECT represented the increased CBF in 30 out of the 31 cases. MRI and CT scan revealed expanded frontal lobes.

Thus, cranioplasty may alleviate the symptoms of patients with mild to moderate trigonocephaly and developmental disorders.

*No To Hattatsu 2001 ; **33** : 487-93*