does not permit full discussion of these families but suffice it to say that the genetics of the various craniosynostoses are unlikely to be as simple as Dr Escobar might wish to think.

We agree that the mother of our patient shows many of the features in adulthood of the other ACS syndromes and in particular ACS type III. However, as infants, both patients presented with clear-cut trigonocephaly and lacked the soft tisssue syndactyly seen in Chotzen syndrome. Certainly neither patient would have been recognised as a case of Chotzen syndrome or any of the other ACS syndromes in the newborn period. Therefore, had either of these infants been seen for genetic counselling in the absence of a positive family history, there would have been no rationale for counselling on the basis of an autosomal dominant gene. At present there is no information as to the frequency with which isolated craniosynostosis represents new dominant mutations. We, therefore, felt it important to report autosomal dominant trigonocephaly and in particular to emphasise the importance of minor acroskeletal anomalies in distinguishing the familial cases. The importance of these minor anomalies has been proven to be useful in other families multiply affected by craniosynostosis (Hunter and Rudd, 1977). Our patients are clearly not typical examples of the Chotzen syndrome and whether or not they represent variable expression of the Chotzen syndrome gene, or a mutation, either allelic or at a different locus cannot be determined from the current state of knowledge. Observation of the experiences of biochemical geneticists should lead us to expect genetic heterogeneity in craniosynostosis, with or without associated syndactyly or polysyndactyly.

Yours, etc,

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Risk of closed lesions in sibs of cases of open neural tube defect

Sir,

Recent studies (Wynne Davies, 1975; Carter *et al.*, 1976) have shown that malformations resulting from defective closure of the neural tube cover a spectrum ranging from spina bifida occulta through open meningomyelocele to anencephaly.

Families at risk for the recurrence of neural tube defects may have a child with any degree of the abnormality, or one with hydrocephalus alone (Lorber and Ne, 1970). Alpha fetoprotein (AFP) in amniotic fluid is recognised as a reliable index of open neural tube defect in the fetus (Brock and Sutcliffe, 1972), allowing selective termination of potentially handicapped children.

Two cases of true closed lesions occurred in 12 recurrences in the first 140 pregnancies 'at risk' for recurrence of neural tube defect in N.S.W., Australia. The previous abnormality was spina bifida in 91 cases and anencephalus in 49 cases.

Both cases described showed no evidence of abnormality on antenatal testing (serial echograms, serum, and amniotic fluid AFP at 15 to 16 weeks of pregnancy). The previous sib had died after conservative management of severe open thoracolumbar meningomyelocele in each instance.

The first case, a female, was noted at birth to have a mobile swelling to the left of midline in the inner quadrant of the buttock. There was no neurological deficit. *X*-ray pictures of the spine were reported as normal. Myelogram at 15 months showed a sacral meningocele with tethered cord. Excision of the lipoma, and freeing of the cord were performed and the child is developing normally.

The second, a male, was noted at birth to have a head circumference of 39.4 cm, which increased rapidly to 44.3 cm at 3 weeks of age. Investigation by air ventriculogram showed moderate hydrocephalus with pronounced asymmetry, the left lateral ventricle smaller than the right, displacing the septum pellucidum across the midline. A large paraventricular cyst stretched from vertex to occiput region on the left side and the blockage was at aqueduct level. A ventriculoperitoneal shunt was inserted. The head circumference is continuing to increase, and at 5 months he is showing delay in developmental milestones.

The prognosis is poor; there is shunt dysfunction and mental retardation.

The 8·6% frequency for recurrence represents a biased parental risk situation. Five couples had 2 previous affected children, and 3 had 3 affected. In three instances one parent had spina bifida occulta as well as a previously born anencephalic child.

The proportion of 'closed' to 'open' lesions (1 to 6) seen in this series may show a similar false elevation.

In previous studies the proportion of sibs with anencephaly and spina bifida was 2·4% where the index case had congenital hydrocephalus (Lorber and, Ne, 1970), 4·2% where the index case had spinal dysraphism (Carter *et al.*, 1976), 4·8% where the index case had multiple vertebral anomalies including spina bifida occulta, and 2·9% where the index case had multiple vertebral anomalies alone (Wynne Davies, 1975).

The risk for closed lesions must be included in counselling parents seeking antenatal testing, and the fact that, by present methods, they are not detectable during pregnancy, that the prognosis for completely normal development is guarded.

Yours, etc.,

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