LETTERS TO THE EDITOR

Osteoglyphonic dysplasia

We read with interest the manuscript ‘Osteoglyphonic dysplasia’, by Professor Peter Beighton (J Med Genet 1989;26:572-6). However, we would like to voice an objection to the spelling of the name of this disorder. Professor Jürgen Spanger suggested the term ‘osteoglyphonic dwarfism’ on the basis of its radiographical findings. The metaphyses appear to be ‘hollowed out’, so the term ‘osteoglyphonic’ for ‘hollowed bone’ was proposed.

The Greek noun γλυφός (genitive γλυφόδος) refers to the notch of an arrow (by which it is seated on the bowstring) and, by extension, to the arrow itself. The related verb γλύφω means “to hollow out, engrave, carve”, and, by extension, “to write” (on a tablet). The Greek root persists in English as the suffix “-glyph”, in “hieroglyph” or “petroglyph”. The same root appears in many western European languages as a word meaning “to cut” or “to cleave”, for example, in cleft palate. The Greek letter upsilon should be translated into English only as y or u. There is no reasonable English equivalent which uses the letter o for the Greek upsilon.

Therefore, we feel that this condition should be named correctly either ‘osteoglyphic’ or ‘osteogliphic’ dysplasia.

FRANK GREENBERG
Institute for Molecular Genetics and Birth Defects Center, Texas Children’s Hospital, Houston, Texas, USA.

RICHARD ALAN LEWIS
Departments of Ophthalmology, Medicine, Pediatrics, and the Institute for Molecular Genetics, Baylor College of Medicine, Houston, Texas 77030, USA.


Choanal atresia as a feature of ectrodactyly-ectodermal dysplasia-clefting (EEC) syndrome: a further case

Christodoulou et al1 reported a family in which the proband had choanal atresia associated with the EEC (ectrodactyly-ectodermal dysplasia-clefting) syndrome. We wish to report another child with this syndrome, and choanal atresia, and confirm this feature to be associated with the EEC syndrome.

The proband presented with bilateral cleft of the lip and palate, preaxial polydactyly of the left foot, left hydronephrosis, right dysplastic and non-functioning kidney, and web penis. His mother has bilateral cleft of the lip and palate with no nail, hand, foot, hair, or tear duct abnormalities. However, the ibis has classical features of EEC syndrome, including choanal atresia. In addition to very fair, brittle hair, she has bilateral absence of the ear ducts, facial dysmorphism consisting of underdeveloped philtrum, flat nasal bridge, and lateral placement of the inner canthi, and, in addition, syndactyly of fingers 3 and 4 on both hands. She has vesicoureteric reflux.

The diagnosis of the EEC syndrome in the proband and mother would have been difficult without the affected sib. This family also indicates the extreme variability and the renal tract anomalies seen in this syndrome.2

K TUCKER, A LIPSON
Genetics and Dysmorphology Unit, The Children’s Hospital, Camperdown, Sydney 2050, Australia.


Paraplegia and arthrogryplosis multiplex of the lower extremities after intrauterine exposure to ergotamine

In a recent issue of this Journal, Hughes and Goldstein1 reported on a microcephalic girl with paraplegia, joint ankylosis, and anaesthesia of the lower limbs, suggesting medullar injury; lissencephaly and brain atrophy were also present. She was born after intrauterine exposure during the first four months of gestation to several vasoactive drugs: propranolol (80 mg/day) and ‘cafergot’ suppositories (one to four/week).

We recently observed a child with arthrogryplosis congenita and paraplegia, whose mother took ergotamine in the fourth month of pregnancy. Our proband, a girl, was born at 32 weeks of a dizygotic twin pregnancy, obtained through in vitro fertilisation. Her brother weighed 2300 g and was normal. Her weight was 1720 g (50th centile) and OFC was 31 cm. Arthrogryplosis multiplex of the lower limbs with sensorimotor nerve defect was present. The symptoms were very similar to the neurological status of a spina bifida aperta (or any other spinal cord trauma involving segments L1 to S1): bilateral equinovarus deformity of the ankles, bilateral fixation of the knees at right angles, and bilateral luxation of the hips, which were fixed in abduction-internal rotation. Moreover, perpartal fractures of both femora were present. There was both faecal and urinary incontinence and anal evasion. The thighs and buttocks were hypoplastic. There was some spontaneous movement at the ankle joints, as well as hip flexion, and some sensitivity remained in the plantar area and around the hip. The upper limbs were not involved. The face was normal.

Subsequent psychomotor development was normal, and partial motor and sensory recovery was observed. Transfontanellar ultrasonography and EEG were normal. Spine x-ray, CT scan, and NMR imaging of the lower medulla oblongata were normal and excluded extrinsic compression or vertebral malformation. Electromyography showed a denervation pattern of fibrillations with some bursts of voluntary contraction in the quadriceps muscles. Prenatal cord trauma seemed the most probable aetiology, considering the muscle atrophy and ankylosis.

The parents were normal, non-consanguineous Caucasians and there was no relevant family history. However, at 4½ months of gestation, the mother, who suffered from migraine, took one suppository of Cafergot® (Sandoz, composition: ergotamine 2 mg, caffeine 100 mg, belladonna alkaloid 0.25 mg, butalbital 100 mg). She suffered from severe side effects including intractable nausea, vertigo, and dizziness, which confined her to bed for three days. The rest of the pregnancy was uneventful. Neither hydramnios nor oligohydramnios was recorded, nor a decrease in fetal movements.

The vascular effect of therapeutic or toxic doses of ergot alkaloid has been widely documented in man. Individual sensitivity to therapeutic doses of
ergotamine is variable and severe vaso-
occlusion has been reported with
therapeutic doses. However, to our
knowledge, paraplegia owing to oc-
cclusion of the lower medullary artery
of Adamkiewicz does not seem to have
been reported.

It has long been known that ergo-
tamine crosses the placental barrier in
small amounts. David described four
of 24 patients with Poland’s anomaly,
where the mother attempted abortion
with ergot derivatives and hypo-
thesised that a defect of vascularisation
in the limb bud induced by ergot could
be responsible for the malformation.

We suggest that a single dose of
ergotamine and caffeine administered
at 4½ months could be associated,
through placentation transfer, with a
vascular spasm of a medullary artery
severe enough to induce spinal cord
ischaemia and neuronal loss. Our
observation, as well as the case reported
by Hughes and Goldstein, at least
raises the possibility that ergotamine
induced birth defects of vascular origin
can occur.

A VERLOES
Centre for Human Genetics, Pathologie B23,
Hôpital du Sart Tilman,
B-4000 Liège, Belgium.

P EMONTS, M DUBOIS
University Department of Gynaecology
and Obstetrics,
Hôpital de la Citadelle, Liège, Belgium.

J RIGO, J SENTERRE
University Department of Neonatology,
Hôpital de la Citadelle, Liège, Belgium.

1 Hughes HE, Goldstein DA. Birth defects following maternal exposure to ergo-
tamine, beta blocker, and caffeine.

2 Griffiths RW, Grauwiler J, Model CH,
Leist KH, Matter B. Toxicologic
considerations. In: Berde B, Schild
HO, eds. Ergot alkaloid and related
compounds. Berlin: Springer-Verlag,

3 David TJ. Nature and etiology of Poland
anomaly. N Engl J Med 1972;287:
487-9.

Genes and Signal Transduction in
Multistage Carcinogenesis. Ed Nancy
H Colburn. (Pp 480; $150.00.) New

The title of this book is immediately
attractive to anyone involved in the
field of multistage carcinogenesis. For
many years there has been a need for a
book that provides a relatively up to
date overview of the specialised animal
model systems that can be correlated
with the role of tumour promoting
agents and specific genes which confer
susceptibility to neoplastic transforma-
tion in signal transduction. The book is
subdivided into four parts. Parts I and
II deal with genetic variants for
responses to mitogens and tumour
promoters and with cloned genes that
influence susceptibility to neoplastic
progression. There is an excellent
chapter on the genetic determinants of
susceptibility to mouse skin tumour
promotion by DiGiovanni and an
excellent chapter by Herschman and
Brankow on the suppression and
expression of the transformed phen-
type in C3H10T½ cells following two
stage transformation. The chapter by
Weber and Schawver on the role of the
src gene in cellular transformation
provides some interesting information
on 3T3-TNR9 cells, which are
resistant to the mitogenic effects of the
tumour promoter TPA, and not only fail
to be transformed by src but are
growth inhibited in the presence of the
src gene. The other interesting dis-
covery is that v-myc facilitates v-src
transformation in these cells. Thus, the
data suggest common steps in signal
transduction by v-src and TPA and
imply a role for myc in the pathway. Dr
Colburn’s own chapter shows that the
promotion insensitivity of her JB6
promotion resistant cell line is not the
result of altered levels of PKC, but is
more likely to result from changes in
critical substrates phosphorylated by
PKC. There are also some cautionary
notes in the very detailed chapter on
the complex regulation of gene ex-
pression by TPA by Denhardt et al; we
are reminded that a correlation
between PKC activation and a change
in gene expression does not signify a
causal relationship. Gene expression
during multistage carcinogenesis is
reported in detail in the following chapter
by Bowden et al.

The chapters in part III on signal
transduction are excellent overviews of a
very complex field and integrate well
with the chapters mentioned above.
There is an excellent introduction to the
field in a chapter by Parker et al and
two nice discussions about the trans-
duction of the phorbol ester signal and
the role of PKC in IL-2 production in
the following chapter. I particularly
enjoyed the chapter on the role of raf
and myc oncogenes in signal trans-
duction by Heidecker et al, as I think
we have dwelt on the role of ras in these
messenger systems for too long. Finally,
in part IV, on stress associated signals
and gene regulation, there are two
valuable chapters about the role of
growth arrest for protein. There is also an excellent
chapter by Karin on cis and trans