Journal of Medical Genetics 1987, **24**, 714–716

Unknown syndrome: holoprosencephaly, congenital heart defects, and polydactyly

SUMMARY We present a stillborn male infant with premaxillary agenesis, bilateral microphthalmos, alobar holoprosencephaly, hydrocephalus, ventricular and atrial septal defects, small penis, bilateral cryptorchidism, and bilateral upper limb postaxial polydactyly.

History

Prenatal. No cigarettes or alcohol. Debendox from eight to 16 weeks. Normal intrauterine movements.
Birth. Vaginal delivery at 41 weeks following decompression of hydrocephalus. Fresh stillbirth.

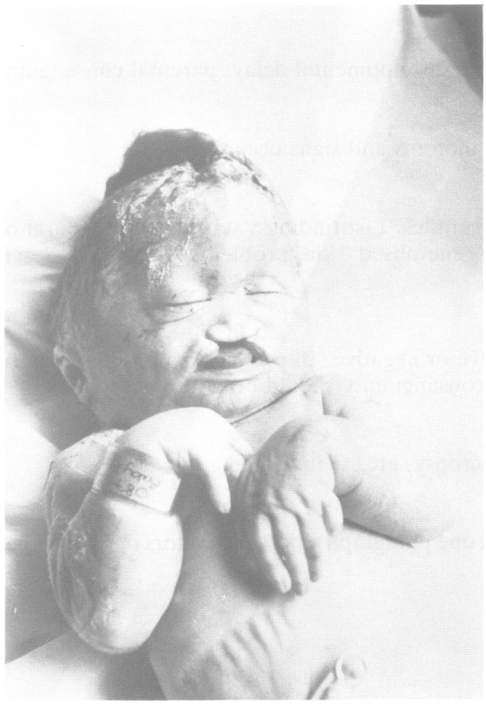

FIG 1 *Postmortem view of the infant showing collapsed cranial bones and the facies of premaxillary agenesis. Bilateral postaxial polydactyly is also visible.*

Received for publication 23 February 1987.
Accepted for publication 27 February 1987.

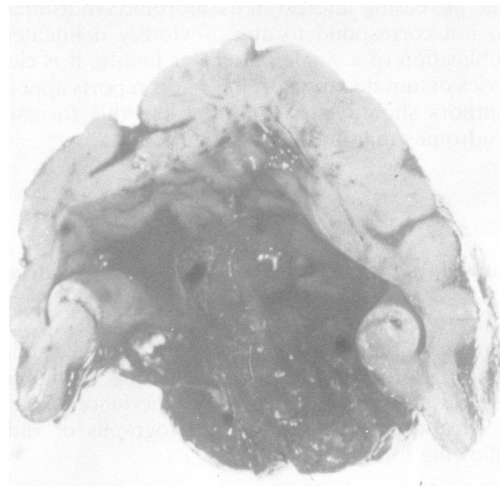

FIG 2 *Coronal section of the brain showing alobar holoprosencephaly.*

Family. First child of healthy unrelated parents. Father aged 30 years, mother aged 25 years. One healthy afterborn male sib. No other relevant family history.

Clinical examination

External (fig 1). Weight 3090 g (10th centile), length 49 cm (10th centile). Premaxillary agenesis with bilateral microphthalmos and anterior cleft palate. Grossly overlapping collapsed cranial bones. Bilateral postaxial upper limb polydactyly. Left talipes equinovarus. Small penis with bilateral cryptorchidism.
Necropsy (fig 2). Alobar holoprosencephaly with absence of midline structures, single ventricle, and pachygyria. Membranous ventricular septal defect with a small septum primum type atrial septal defect. Absence of the septal cusp of the tricuspid valve. No abnormalities noted in lungs, trachea, oesophagus, gastrointestinal tract, liver, pancreas, biliary system, spleen, or kidneys.
Placenta. Weight 600 g, normal appearance, three vessels in cord.
Karyotype. Cord blood: normal G banded male karyotype. Normal parental karyotypes.

Discussion

No clear diagnosis has been reached in this infant. The London dysmorphology database[1] lists 17 non-chromosomal syndromes featuring holoprosencephaly. In only one

of these, Meckel's syndrome, do cardiac anomalies and postaxial polydactyly also occur. The absence of an encephalocele and renal abnormalities in this case makes the diagnosis of Meckel's syndrome unlikely, particularly since cystic renal dysplasia may be a prerequisite for this diagnosis.[2] The hydrolethalus syndrome[3] also features in the differential diagnosis, but points against this are the holoprosencephaly with its associated facial dysmorphism, plus the absence of micrognathia and pulmonary abnormalities.

References

1 Winter RM, Baraitser M, Douglas JM. A computerised database for the diagnosis of rare dysmorphic syndromes. *J Med Genet* 1984;**21**:121–3.

2 Fraser FC, Lytwyn A. Spectrum of anomalies in the Meckel syndrome. *Am J Med Genet* 1981;**9**:67–73.

3 Salonen R, Herva R, Norio R. The hydrolethalus syndrome: delineation of a 'new' lethal malformation syndrome based on 28 patients. *Clin Genet* 1981;**19**:321–30.

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Unknown syndrome: abnormal facies, congenital heart defects, hypothyroidism, and severe retardation

SUMMARY We present a female infant with (1) abnormal facies: microcephaly, blepharophimosis, small, low set, posteriorly rotated ears, bulbous nose, carp shaped mouth, micrognathia; (2) congenital heart abnormalities: large atrial and ventricular septal defects; (3) congenital hypothyroidism; (4) severe global retardation.

History

Prenatal. No cigarettes or alcohol. Debendox from seven to eight weeks. Amniocentesis at 16 weeks for fetal sexing. Normal intrauterine movements.
Birth. Forceps delivery after induction at 41 weeks. Required resuscitation. Apgar scores 2 at one minute, 2 at five minutes, 8 at 10 minutes.
Family. First child of healthy unrelated parents. Father aged 29 years, mother aged 24 years. Maternal brother had Duchenne muscular dystrophy.

Received for publication 23 February 1987.
Accepted for publication 27 February 1987.

Medical history

Dysmorphism noted at birth. Initially hypotonic, then increasing hypertonia. Hypothyroidism treated from two weeks. Pneumonia at eight months and one year. Single febrile convulsion at eight months. Cardiac failure treated from 14 months. Cause of death at 25 months bronchopneumonia.

Clinical examination

At birth. Weight 2·97 kg (10th centile), length 52 cm (50th centile), head circumference 34 cm (10th centile). Slanting forehead, prominent occiput, three fontanelles. Posteriorly rotated, low set ears, both 3 cm long (3rd centile). Right preauricular pit. Blepharophimosis, palpebral fissure width 18 mm. Bulbous nasal tip. Narrow palate with broad alveolar margins. Carp shaped mouth. Micrognathia. Loud pansystolic murmur. Single right palmar crease.
At one year (figs 1 and 2). Weight 6 kg (<<3rd centile), length 69 cm (3rd centile), head circumference 40·8 cm (<<3rd centile). Severe global retardation. Visual

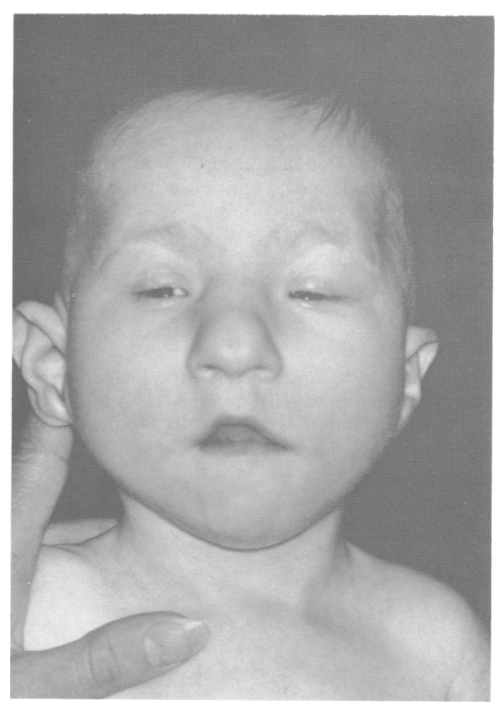

FIG 1 *AP view of the patient at one year. Note the short and narrow palpebral fissures and carp shaped mouth.*