Anophthalmia with cleft palate and micrognathia: a new syndrome or an unusual presentation of Runbin-Taybi syndrome?

In the December 1994 issue of this journal I read with interest the brief paper “Anophthalmia with cleft palate and micrognathia: a new syndrome?” by Phadke et al.1 The authors described a male neonate with bilateral anophthalmos in association with Pierre-Robin anomaly, abnormal genitalia, and normal chromosomes. They discussed the differential diagnosis of X linked Lenz syndrome and pointed out that their patient “represents a new syndrome of anophthalmia, cleft palate, and micrognathia”. They also considered the possibility of a microdeletion of 14q as the two patients with 14q22q32 deletions reported by Bennett et al2 and Elliott et al3 presented similar clinical manifestations. During the past few years an increasing number of other syndromes with clefting and microphthalmos/anophthalmos/micrognathia/coloboma have been reported.4-10 The syndrome of macrocoria, microphthalmos ± cleft palate, and early infant death delineated by Taeber et al11 is an autosomal recessive multiple congenital anomalies syndrome. The association of uveal colobomata, cleft lip and palate, and mental retardation described by Kingston et al12 is apparently inherited as an autosomal dominant trait, and also Edwards et al13 documented vertical transmission of ocular defects, clefting, and dysmorphic features in a family.

In the past we have had the occasion to examine two unrelated male newborns shortly after their birth with an identical pattern of malformations (bilateral anophthalmos, Pierre-Robin sequence, hypoplasia grade II-III). They were referred with the possible diagnosis of X linked Lenz syndrome and caused us serious difficulties in final diagnosis and genetic counselling. Both were first children of healthy, unrelated parents and were born after normal, term pregnancies. Birth weights were 2100 g and 2200 g, lengths 46 cm and 44 cm, and head circumferences 33 cm and 33.5 cm, respectively. CT scans of the brain were normal and the clinical suspicion of true anophthalmos without associated CNS malformations. High resolution chromosome studies showed a normal 46,XY male karyotype in both boys. We were not able to establish a final diagnosis in the neonatal period and followed them at regular intervals. Only after the age of 1 year did it become evident that both two patients had a typical unusual manifestation of Runbin-Taybi syndrome. Now, at their respective ages of 14 and 8 years, they still show significant postnatal growth retardation with growth parameters far below the 3rd centiles for age. The typical Runbin-Taybi symptoms (beaked nose with nasal septum extending below the alae nasi, a typical mouth with flat philtrum and thin upper lip, broad proximally implanted thumbs and halluces, fetal pads on short and broad terminal phalanges) became only evident several months after birth.

Looking at the clinical photographs of the proband reported by Phadke et al,1 several additional facial symptoms not discussed by the authors could have been in the favour of the diagnosis of Runbin-Taybi syndrome in this male newborn: low frontal and temporal hair implantation, broad forehead, bushy eyebrows, broad nasal bridge, nasal septum extending below the alae nasi, and smooth philtrum with fine upper lip. Failure to thrive was apparently severe with marked delay in motor development until the boy died at the age of 5 months.

Reviews on Runbin-Taybi syndrome describe this MR/MCA syndrome as a condition with pathognomonic symptoms which can be detected in the newborn period by characteristic thumb, hallucal, and facial abnormalities.14 Our experience in the two male patients, briefly described in this letter, illustrates that the final diagnosis of Runbin-Taybi syndrome may be difficult and that follow up of the age of 1 year may be necessary.

Finally, bifid uvula, hypoplasia, and ocular anomalies, including colobomas of the iris/retina, exophthalmos or enophthalmos, cataract, congenital glaucoma, and megalocornea, have been reported as occasional associated findings in individual patients with Runbin-Taybi syndrome.15 It would be of interest to hear whether others have followed Runbin-Taybi syndrome patients with the same, apparently rare triad of anophthalmia, Pierre-Robin sequence, and hypoplasia grade II-III.

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Pallister-Hall and McKusick-Kaufman syndromes

In their article Unsin et al describe a patient who, in addition to typical manifestations of Pallister-Hall syndrome (PHS) (hypothalamic hamartoblastoma, "central" polydactyly with Y shaped metacarpals), had hydrocolpos caused by vaginal atresia with vagino-urethral fistula. The authors proposed that their patient had McKusick-Kaufman syndrome (MKS) and hypothesised that PHS and MKS might be one entity.

Before genetic testing for verification of the specific diagnosis is available, the analysis of clinical manifestations in familial cases of any syndrome remains the best way for the precise delineation of its phenotype. In the familial cases of MKS2 showed that neither preaxial nor central forms of polydactyly have been reported. I do not remember vagino-urethral fistula in the MKS cases.

These two manifestations in the patient of Unsin et al suggest another syndrome than MKS.

Although anal atresia is one of the clinical manifestations of MKS, the data by Red and Grisc Grim do not confirm this because these authors described 26 patients with hydrometrocolpos, but only one or two of them had MKS.

Virtually any defect may be a component of different syndromes. Hypothalamic hamartoblastoma, for example, has been described in cases with Vareidi, Beemer-Langer, Meckel, distal monosomy 7q, and other syndromes.4 The same is true for hydrocolpos.5 Some syndromes overlap considerably with PHS, and MKS is one of them.6 The patient reported by Unsin et al confirms this overlap, which "reflects similarity in chronology and topography of the primitive event". Although brain investigations in the patients with suspected MKS should be done, there are no data confirming that MKS and PHS may be one entity.

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2 Lurie IW, Wilfburg EH, McKusick-Kaufman syndrome: phenotypical variation observed in familial cases as a clue to the delineation of its phenotype. A study of 43 cases. J Genet Hum 1981;29:5-281.