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The Johanson-Blizzard syndrome

SUMMARY The dysmorphic features of a child with the Johanson-Blizzard syndrome are discussed.

Several of the dysmorphic syndromes are difficult to diagnose with certainty. A proportion have characteristic physical dysmorphism, but even in this group the diagnosis may not be considered if one or more of the major features are absent. The Johanson-Blizzard syndrome has distinctive craniofacial changes that should be readily recognised at birth. The syndrome has not yet been reported in the United Kingdom. We report a patient with this condition.

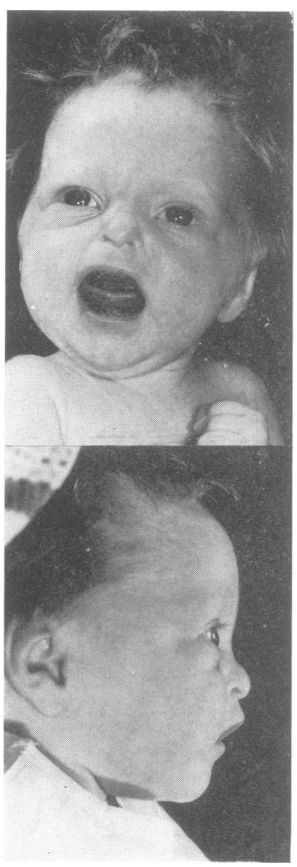

FIGURE *Aplastic nasal alae in child with Johanson-Blizzard syndrome.*

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Case report

A baby girl was delivered normally at term after an uneventful pregnancy, with a birthweight of 2·81 kg. There was no parental consanguinity and the proband had two normal sibs. On examination at birth, the most striking feature was a small nose with hypoplastic nasal alae (figure). There was aplasia of skin and subcutaneous tissue in the region of an abnormally wide anterior fontanelle and the palate was high and arched. There were bilateral transverse palmar creases. The infant's head control was poor but she looked alert and followed visually. She appeared not to respond to sound. She failed to thrive on breast feeding and had intermittent diarrhoea and vomiting. At 5 weeks of age she was still well below her birthweight (at 2·35 kg) and her head circumference was 35 cm (3rd centile). The scalp defect was healing but the anterior fontanelle remained wide. She was started on Galactomin feeds because of lactose intolerance, with Pancrex supplements and Pregestamil, and subsequently gained weight. The baby attained her birthweight at the age of 10 weeks but weight gain has remained very slow. Full biochemical and haematological screening revealed no abnormalities except a haemoglobin of 10·1 g/dl at 8 weeks of age. Chromosome analysis was normal. Hypothyroidism was not present.

Discussion

The association of congenital hypoplasia of the nasal alae, malabsorption, midline cutaneous scalp lesions, absent teeth, mental retardation, imperforate anus, mild hypothyroidism, and deafness is now firmly established as the Johanson-Blizzard syndrome.[1] The association was first noted by Morris and Fisher in 1967,[2] who published pictures of a child with the typical nasal abnormalities. The report by Townes[3] concentrated on the pancreatic deficiency, but when the patient was reviewed 10 years later[4] the hypoplastic nasal alae are clearly visible in the photograph. The syndrome is variable in its expression but the most characteristic features are the nasal defect, midline scalp lesions, and malabsorption. The infant reported here has these three cardinal features. She does not have abnormal thyroid function nor an imperforate anus. Her

dentition cannot yet be evaluated. It is the abnormal nasal configuration at birth that initially suggests the diagnosis. The hypoplasia is severe and largely confined to the nasal alae, leaving a central septum with receding nostrils on either side. The nasal bridge is flat and the whole nose is short.

The pancreatic deficiency is exocrine. Proteolytic, lipolytic, and amylolytic enzymes are reduced or absent. The patient reported by Townes and White[4] received pancreatin with all meals from the age of 4 years. Her symptoms improved but at $12\frac{2}{3}$ years she was still below the 3rd centile for height and weight and was mildly retarded.

Despite initial uncertainty (Smith[5] states that the aetiology is unknown and the condition sporadic), autosomal recessive inheritance is now confirmed. Sibs are reported by Day and Israel[6] and consanguinity by Schussheim *et al.*[7] Mardini *et al*[8] reported sibs in an inbred family. Microcephaly and mental retardation have been reported in all the patients to date, albeit only mildly in some instances.

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Pericentric inversion of chromosome 1 in an azoospermic man

SUMMARY An azoospermic patient with an inherited inversion of chromosome 1 and a normal Y chromosome is described. The mother of the patient has the same inversion.

Pericentric inversion is not an infrequent structural chromosome anomaly in humans, its occurrence being much more common than paracentric inversion.[1] Pericentric inversion is well known in chromosome 9, but it occurs rarely in chromosome 1. To our knowledge pericentric inversion of chromosome 1 has so far been described in ten cases, but its association with male infertility has only recently been published by Giraldo *et al.*[2] In the present paper we wish to report a male azoospermic patient carrying a pericentric inversion of chromosome 1, inv(1) (p34q23).

Case report

A 26-year-old patient was referred to our cytogenetic laboratory because of infertility. The patient was born after an uneventful pregnancy; he was the second child of a 20-year-old mother and a 26-year-old father. His birthweight was 3000 g. His mother was not known to have had any miscarriages. He has a 27-year-old healthy brother. At examination his height was 180 cm and his weight was 73 kg. There was no history to suggest damage or inflammation of the testes. In the course of andrological examination, azoospermia was established. We found no other abnormality.

TESTICULAR HISTOLOGY

Histological section of the left testis showed numerous tubules. Most tubules were lined only by Sertoli cells or filled with desquamated and degenerated Sertoli cells. Only a few tubules contained spermatogonia and active spermatogenesis was not found. We did not find tubules with thickened tunica propria or with hyalinisation (fig 1).

CYTOGENETIC EXAMINATION

Buccal smears were Y body positive. Chromosome studies were done on peripheral blood lymphocytes, using GAG, QFQ, and CBG banding.[3] All cells showed a modal number of 46 chromosomes including one abnormal chromosome. This abnormal chromosome was identified as a pericentric inversion

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