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CONGENITAL MALFORMATIONS

DIABETES AND FETAL MALFORMATIONS

Diabetic and healthy control pregnant women were followed in a multicenter collaborative study coordinated by the Epidemiological Branch, National Institute of Child Health and Human Development, Bethesda, MD. Major malformations, including ananencephaly, arhinencephaly and holoprosencephaly, microcephaly, meningomyelocele and hydrocephalus, were detected in 4.9% of diabetic women who entered the study early compared to 9% in late-entry diabetic subjects (P=.032) and 2.1% in controls (P=.027). Mean blood glucose and glycosylated hemoglobin levels during organogenesis were not significantly higher in women whose infants were malformed, and hypoglycemia was not more common in the same group. Hyperglycemia during organogenesis was not correlated with malformation. The authors conclude that not all malformation can be prevented by good glycemic control but the lower incidence among women studied within 21 days of conception (early-entry group) as compared with the late-entry group justifies good metabolic control around time of conception. (Millis JL et al. Lack of relation of increased malformation rates in infants of diabetic mothers to glycemic control during organogenesis. N Engl J Med March 17 1988;318:671-6.

COMMENT. Previous studies have shown low malformation rates in diabetic women who achieved excellent periconceptional glycemic control. The present study suggests that poor glycemic control explains some but not all diabetes associated malformations. Metabolic factors other than glycemic control may be relevant according to animal studies. Genetic factors may also be involved and female offspring are more susceptible. Congenital optic nerve hypoplasia, not encountered in this study, has been reported in women whose mothers had diabetes mellitus. (Nelson M et al. Arch Neurol 1986;43:20).

ACROCALLOSAL SYNDROME (SCHINZEL SYNDROME)

The acrocallosal syndrome, first described by Schinzel (Helv Paediatr Acta 1979;34:141) and characterized by dysmorphic features, macrocephaly, polydactyly, mental retardation, and agenesis of the corpus callosum, is

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reported in two unrelated boys with consanguineous parents from the Centre de Génétique Médicale, Service de Pediatrie Générale and Radiologie, Hôpital d'Enfants de la Timone, Marseille, France. An autosomal recessive mode of inheritance is suggested and echographic survey of further pregnancies is advised. Clinical manifestations included macrocephaly, bulging forehead, antimongoloid slant of eyes, broad short nose, posteriorly rotated ears, herniae, polydactyly, cardiac defect, mental retardation and corpus callosal agenesis. (Philip N et al. The acrocallosal syndrome. Eur J Pediatr Feb 1988;147:206-208).

COMMENT. Only 12 cases of the syndrome have been reported. Schinzel, who described the syndrome in 1979 and has at least 5 publications on the subject, deserves the eponym.

FRAGILE-X SYNDROME

A characteristic epileptogenic EEG pattern is described in five of 12 male subjects with fragile-X syndrome evaluated at the Instituto Oasi, via C. Ruggero, Troina, Italy, and Clinica Neurologica, II Universita Roma and Bologna, Italy. Focal paroxysmal temporal spikes, at times multifocal, occurred in sleep in one non-epileptic and four epileptic patients with mental retardation and fragile-X syndrome, but not in subjects with mental retardation, with or without epilepsy but without the fragile-X chromosome. (Musumeci SA et al. Fragile-X syndrome: A particular epileptogenic EEG pattern. Epilepsia Jan/Feb 1988;29:41-7).

COMMENT. The authors believe that epilepsy must be considered an important clinical feature of fragile-X syndrome, occurring in an average of 26% of reported cases. Karyotyping is advised in mentally retarded patients with epilepsy, even in those without typical clinical features or positive family history and especially in children who frequently lack the characteristic facial dysmorphisms and macro-orchidism (see Ped Neur Briefs 1987;1:41).

INTRACRANIAL TUMORS

NEUROFIBROMATOSIS AND ACOUSTIC NEUROMAS

The criteria for diagnosis, treatment, family counseling and advances in genetics of neurofibromatosis are reviewed by a neurosurgeon and epidemiologist at the Massachusetts General Hospital, Boston, and the National Institute of Neurological Disorders, Bethesda, MD.

The neurofibromatoses consist of two distinct disorders, a peripheral and a central type, with genes located on separate chromosomes. The diagnosis of neurofibromatosis 1 (NF1, von Recklinghausen's neurofibromatosis or VRNF in Europe) requires two or more of the following: 6 or more cafe au lait macules, 2 or more neurofibromas, axillary or inguinal skin freckles, optic glioma, Lisch iris nodules, osseous lesion and familial occurrence. Neurofibromatosis 2 (NF2, bilateral acoustic neurofibromatosis or BANF in Europe) requires one of the following for diagnosis: a) bilateral eighth nerve tumors, or b) a positive family history plus a unilateral eighth nerve tumor or two of the following: neurofibroma, meningioma, glioma, Schwannoma, or lenticular opacity. For patients with NF2 there is a 50% risk of transmission to any offspring, and close relatives should be screened for cafe au lait spots or neurofibromas, acoustic nerve tumors and lens opacities. Acoustic neuromas commonly become symptomatic during or soon after puberty and