Current Research on Multiple Births

SEMIANNUAL BIBLIOGRAPHY – 1987

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Subject Sections *

Title, authors, and journal source, alphabetized by journal:

- Behavior and Physiology
- Genetic Traits and Methods
- Obstetrics and Pediatrics
- General

Author Section

Authors, titles, journal source, and abstract (if available), alphabetized and cross-indexed by all authors.

(*) The first three subject sections include other topics related to these headings. Classification is performed automatically on the basis of keywords. Some articles appear only in the General section for lack of appropriate keywords. Some articles may appear in two or three of the specific subject sections.

https://doi.org/10.1017/S0001566000004621 Published online by Cambridge University Press

Dizygotic twinning, cycle day of insemination, and erotic potential of Orthodox Jews. James WH. **Am J Hum Genet** 1986 Oct;39(4):542–4

† Similarity of monozygotic and dizygotic child twins in level and lability of subclinically depressed mood. Wierzbicki M. **Am J Orthopsychiatry** 1987 Jan;57(1):33–40

† The early developmental context of twinship: some limitations of the equal environments hypothesis. Ainslie RC, et al. **Am J Orthopsychiatry** 1987 Jan;57(1):120–4

On concordance for tuberculosis and schizophrenia [letter] Bracha HS. **Am J Psychiatry** 1986 Dec;143(12):1634

Nongenetic factors in Gilles de la Tourette's syndrome [letter] Leckman JF, et al. **Arch Gen Psychiatry** 1987 Jan;44(1):100

Panic disorder [letter] Andrews G. **Aust Fam Physician** 1986 Nov;15(11):1407

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† Identical twins discordant for presenile dementia of the Alzheimer type. Renvoize EB, et al. **Br J Psychiatry** 1986 Oct;149:509–12

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† A monozygotic twin pair with Rett syndrome. Tariverdian G, et al. **Hum Genet** 1987 Jan; 75(1):88–90

† Twin birth weight discordancy in Nigeria. Fakeye O. **Int J Gynaecol Obstet** 1986 Jun;24(3):235–8

† Perinatal factors in twin mortality in Nigeria. Fakeye O. **Int J Gynaecol Obstet** 1986 Aug; 24(4):309–14

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† Dementia of the Alzheimer type: clinical and family study of 22 twin pairs. Nee LE, et al. **Neurology** 1987 Mar;37(3):359–63

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† indicates that an abstract appears with the citation in the author section.

GENETIC TRAITS & METHODS

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† Similarity of monozygotic and dizygotic child twins in level and lability of subclinically depressed mood. Wierzbicki M. **Am J Orthopsychiatry** 1987 Jan;57(1):33–40

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A

Ablon SL, Harrison AM, Valenstein AF, Gifford S: Special solutions to phallic-aggressive conflicts in male twins. Psychoanal Study Child 1986;41:239-57

Abrams S: Disposition and the environment. Psychoanal Study Child 1986;41:41-60

Aho K, Koskenvuo M, Tuominen J, Kaprio J: Occurrence of rheumatoid arthritis in a nationwide series of twins. J Rheumatol 1986 Oct;13(5):899-902
The nationwide Finnish Twin Cohort was linked with the Sickness Insurance Register on the basis of the unique identification number assigned to each Finnish citizen. The study series consisted of 4137 monozygotic (MZ) and 9162 dizygotic (DZ) same-sexed twin pairs born before 1958 and alive in 1975. Altogether, 261 subjects in the series had the right to receive free medication for rheumatoid arthritis (RA) under the Sickness Insurance Act that covers the entire Finnish population. The pairwise concordance percentage for RA was 12.3 in MZ twins and 3.5 in DZ twins. The age and sex adjusted ratio of observed per expected numbers of concordant pairs (relative risk) was 8.6 for MZ pairs and 3.4 for DZ pairs. These figures are lower than those previously reported on twins but compatible with results from family studies on the genetic component of RA.

Ahuja K see **Porter R**

Ainslie RC, Olmstead KM, O'Loughlin DD: The early developmental context of twinship: some limitations of the equal environments hypothesis. Am J Orthopsychiatry 1987 Jan;57(1):120-4
Using questionnaires distributed to mothers, the characteristics of early development in twinship were investigated. Results indicated twinship to be an at-risk situation with neonatal complications and within-pair differences in the attainment of developmental milestones. The implications of these differences raise questions about the accuracy of the equal environments hypothesis.

Albin DM see **Whalen TV Jr**

Alexander S see **Brion L**

Alkalay AL, Gonzalez CL, Chou PJ, Medearis AL, Austin E, Pomerance JJ, Young LW: Radiological case of the month. Thoracoomphalopagus twins with big omphalocele. Am J Dis Child 1987 Jan; 141(1):89-91

Altemani AM, Vassalo J, Billis A: Congenital focal glomerular lesions in only one monozygotic twin related to a probable twin transfusion syndrome. Histopathology 1986 Sep;10(9):991-4
A case of congenital focal glomerular lesions involving crescent formation in only one monozygotic twin is reported. The possible effect of chronic hypotension in the pathogenesis of the lesion is discussed, considering the fact that the affected twin was probably the donor in a feto-fetal transfusion syndrome.

Andrews G: Panic disorder [letter] Aust Fam Physician 1986 Nov;15(11):1407

Antonelli D, Shmilovitz L, Dharan M: Conjoined hearts. Br Heart J 1986 Nov;56(5):486-8
Thoracopagus twins were delivered at 37 weeks' gestation by caesarean section. Respiratory distress was present and mechanical ventilation was needed; 36 hours after delivery severe lactic acidosis developed and the twins died. The pericardial sac was common and the hearts were conjoined as a single structure with ventricular fusion.

Apodaca L see **Growdon WA**

Arap S see **Mitre A**

Ashkenazi S, Danziger Y, Varsano Y, Peilan J, Mimouni M: Treatment of Campylobacter gastroenteritis. Arch Dis Child 1987 Jan;62(1):84-5
Twin boys suffered from recurrent diarrhoea due to Campylobacter jejuni after entering a day nursery. Stool sampling of all 17 children at the nursery revealed C. jejuni in 12. Simultaneous treatment with antibiotics of all children with positive cultures successfully eradicated the infection.

Atilio Canas J see **Hummell DS**

Austin E see **Alkalay AL**

Austin MA, King MC, Bawol RD, Hulley SB, Friedman GD: Risk factors for coronary heart disease in adult female twins. Genetic heritability and shared environmental influences. Am J Epidemiol 1987 Feb; 125(2):308-18
The contributions of shared genes and shared environments to familial aggregation of coronary heart disease risk factors were investigated by genetic and epidemiologic analysis of 434 adult female twin pairs from the Kaiser-Permanente Twin Registry in Oakland, California, during 1978 and 1979. Initial estimates of genetic heritability were statistically significant for serum levels of high density lipoprotein (HDL) cholesterol, low density lipoprotein (LDL) cholesterol, triglycerides, and Quetelet index, but were only marginally significant for systolic and diastolic blood pressures. These estimates were biased, however, because sisters in the same identical twin pair were more similar than sisters in the same fraternal twin pair not only with respect to shared genes but also with respect to shared environmental and behavioral influences. Heritability was estimated again after adjusting for shared environmental and behavioral effects by multiple regression analysis. Genetic heritability remained significant for HDL cholesterol (0.66), LDL cholesterol (0.88), triglycerides (0.53), and relative weight (0.55) but not for systolic (0.42) and diastolic (0.25) blood pressures. The strong genetic components of the levels of LDL cholesterol, HDL cholesterol, and relative weight may in part explain why some women have high levels of these coronary disease risk factors despite following recommended health behaviors.

Avni EF see **Brion L**

Awad el Seed FE see **Pombo de Oliveira MS**

B

Babich M see **Jovanovic L**

Bailey JM, Horn JM: A source of variance in IQ unique to the lower-scoring monozygotic (MZ) cotwin. Behav Genet 1986 Sep;16(5):509-16

Barbui T see **Comotti B**

Barkai G see **Rabinovici J**

Barretto OC, Nonoyama K, Colletto GM: Acquired erythroenzymopathy in a monozygotic twin with acute myeloid leukemia. Braz J Med Biol Res 1986; 19(1):63-7
The specific activity of several red cell enzymes was studied in a pair of monozygotic twins, one of whom presented acute myeloblastic leukemia. When the intrapair variation of these twins was compared with that of a series of nine normal twins, a significant decrease in phosphoglycerate kinase, diphosphoglycerate mutase, pyruvate kinase, lactic dehydrogenase, adenylate kinase and glucose-6-phosphate dehydrogenase activities and an increase in 6-phosphogluconate dehydrogenase activity were demonstrable for the leukemic twin. The heat stability of the leukemic proband's pyruvate

AUTHOR SECTION

kinase at pH 8.0 and 56 degrees C was less than that of the normal twin, suggesting an acquired qualitative disorder.

Bassan R see **Comotti B**

Bawol RD see **Austin MA**

Beer WE see **Harper KJ**

Ben-Bassat I see **Brok-Simoni F**

Benhaiem-Sigaux N see **Razavi-Encha F**

Berg K see **Kramer AA**

Bertrams J see **Purrmann J**

Bevilacqua M see **Weber G**

Billis A see **Altemani AM**

Bishop DT see **Meikle AW**

Bloch G see **Razavi-Encha F**

Bodurtha JN, Schieken R, Segrest J, Nance WE: High-density lipoprotein-cholesterol subfractions in adolescent twins. Pediatrics 1987 Feb;79(2):181-9

Data on the levels of high-density lipoprotein-cholesterol (HDL-C) and subfractions in 102 adolescent twin pairs and their parents are presented. Children with a family history of premature cardiovascular death had lower levels of HDL2-C than did those without such a history. White girls reporting a high level of physical activity had higher levels of HDL-C and HDL2-C than did their more sedentary peers. In general, children of mothers who smoked had lower HDL2-C than did children of nonsmoking mothers. These findings suggest that low levels of HDL2-C in children may identify families in which there is an increased risk of coronary heart disease and that parental smoking may contribute to changes in this risk factor in the children of smokers as well as in the smokers themselves.

Böhles H, Wenzel D, Shin YS: Progressive cerebellar and extrapyramidal motor disturbances in galactosaemic twins. Eur J Pediatr 1986 Oct; 145(5):413-7

Progressive cerebellar and extrapyramidal motor disturbances are described in two 16-year-old female twins with classical galctosaemia. The neurological disturbances, characterized by hyper- and dysmetric movements and bilateral intention tremor with choreatic, atactic and even ballistic motor storms, appeared at 12 years of age. Computerized tomography demonstrates cerebral atrophy in cerebellar, brain stem and basal ganglia structures. The central conduction times, determined by somatosensible evoked potentials, are grossly prolonged; the peripheral nerve conduction velocities are normal. The neurological sequelae described are considered a distinct entity in the course of galactosaemia.

Böhm N see **Schwaibold H**

Bohnet HG see **Trapp M**

Borchard F see **Purrmann J**

Bosch EP see **Graff-Radford NR**

Bouchard C, Simoneau JA, Lortie G, Boulay MR, Marcotte M, Thibault MC: Genetic effects in human skeletal muscle fiber type distribution and enzyme activities. Can J Physiol Pharmacol 1986 Sep; 64(9):1245-51

The purpose of the study was to estimate the genetic effect for skeletal muscle characteristics using pairs of nontwin brothers (n = 32), dizygotic (DZ) twins (n = 26), and monozygotic (MZ) twins (n = 35). They were submitted to a needle biopsy of the vastus lateralis for the determination of fiber type distribution (I, IIa, IIb) and the following enzymes were assayed for maximal activity: creatine kinase, hexokinase, phosphofructokinase (PFK), lactate dehydrogenase, malate dehydrogenase, 3-hydroxyacyl CoA dehydrogenase, and oxoglutarate dehydrogenase (OGDH). For the percentage of type I fibers, intraclass correlations were 0.33 (p less than 0.05), 0.52 (p less than 0.01), and 0.55 (p less than 0.01) in brothers and DZ and MZ twins, respectively. MZ twins exhibited *significant within-pair resemblance for all enzyme* activities (0.30 less than or equal to r less than or equal to 0.68). In spite of these correlations, genetic analyses performed with the twin data alone indicated that there was no significant genetic effect for muscle fiber type I, IIa, and IIb distribution and fiber areas. Although there were significant correlations in MZ twins for all muscle enzyme activities, the often nonsignificant intraclass coefficients found in brothers and DZ twins suggest that variations in enzyme activities are highly related to common environmental conditions and nongenetic factors. However, genetic factors appear to be involved in the variation of regulatory enzymes of the glycolytic (PFK) and citric acid cycle (OGDH) pathways and in the variation of the oxidative to glycolytic activity ratio (PFK/OGDH ratio). Data show that these genetic effects reach only about 25-50% of the total phenotypic variation when data are adjusted for age and sex differences.

Bouchard C, Lesage R, Lortie G, Simoneau JA, Hamel P, Boulay MR, Pérusse L, Thériault G, Leblanc C: Aerobic performance in brothers, dizygotic and monozygotic twins. Med Sci Sports Exerc 1986 Dec; 18(6):639-46

Forty-two brothers, 66 dizygotic twins of both sexes and 106 monozygotic twins of both sexes, 16 to 34 yr of age, took part in this study that was designed to investigate the effect of heredity in aerobic performance. Maximal oxygen uptake (VO2 max), maximal heart rate (HR max), maximal ventilation, and maximal oxygen pulse were obtained from a progressive ergocycle test to exhaustion. Total work output in a 90-min maximal ergocycle test was also determined in the twins. Fat-free weight was estimated from body density measurements obtained through underwater weighing. Aerobic performance scores were adjusted for age (brothers), and age and sex (dizygotic and monozygotic twins) by regression procedures. Dizygotic twins and brothers of same sibship exhibited about the same level of resemblance for all variables or were only slightly different, with the exception of HR max. Monozygotic pairs were generally more alike than the other sibs, as suggested by the intra-class coefficients. Twin data were used to compute the genetic effects. The within-pair estimate of genetic variance revealed that it was significant (P less than or equal to 0.05) for all variables except VO2 max X kg-1 fat-free weight X min-1. In the case of HR max, the among-pairs component estimate had to be used, and it also proved significant (P less than or equal to 0.01). The size of the genetic effect was computed from three different methods, and it reached about 40% for VO2 max X kg-1 X min-1, 50% for HR max, 60% for maximal oxygen pulse and maximal ventilation, and 70% for 90-min work output X kg-1.(ABSTRACT TRUNCATED AT 250 WORDS)

Boulay MR see **Bouchard C**

Boyd Y see **Burn J**

Bracha HS: On concordance for tuberculosis and schizophrenia [letter] Am J Psychiatry 1986 Dec; 143(12):1634

Brill PW see **Coblentz MG**

Brion L, Alexander S, Clercx A, Avni EF, Kirkpatrick C, Vermeylen D, Detemmerman D, Pardou A: Fatal ureaplasma infection in second twin born 60 days

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after delivery of the first in a patient with recurrent spontaneous abortion--a case report.
J Perinat Med 1986;14(3):201–4
A delay of more than one month between the birth of twins is an unusual occurrence presenting the obstetrician and the neonatalogist with many questions regarding the management of the case. There is the risk of prematurity for the second twin as labor has already occurred in the pregnancy. There is also a risk of infection to both mother and fetus during the interval between the two deliveries, since the stump of the first twin's cord may precipitate ascending colonization from vagina and cervix. Germs frequently recovered from the vagina e.g. Ureaplasma urealyticum, are associated with prematurity. The latter has also been responsible for lethal interstitial pneumonia in the neonate. We present a case of a patient who though she delivered twice normally, had suffered 4 first trimester abortions and one late abortion, all spontaneous. Her eighth pregnancy was a twin pregnancy. She underwent a cerclage at 14 weeks, but went into labor at 17 weeks, when she delivered the first macerated twin. She was then treated with fenoterol and ampicillin; nevertheless she delivered twin the second at 26 weeks. This 750 g baby-girl presented with severe respiratory distress. Repeated chest X rays showed perihilar infiltrates which became nodular. All cultures were negative. At the end of the first week, when her condition was considered satisfactory, she deteriorated dramatically and died in respiratory failure and DIC. Tracheal aspirates were positive for Ureaplasma urealyticum.

Brok-Simoni F, Rechavi G, Katzir N, Ben-Bassat I: Chronic lymphocytic leukaemia in twin sisters: monozygous but not identical [letter] Lancet 1987 Feb 7;1(8528):329–30

Bryan E see **Little J**

Bryan EM: The intrauterine hazards of twins [editorial] Arch Dis Child 1986 Nov;61(11):1044–5

Bucholz RD, Yoon KW, Shively RE: Temporoparietal craniopagus. Case report and review of the literature. J Neurosurg 1987 Jan;66(1):72–9
A case of craniopagus twins joined in the temporoparietal area is presented, along with a review of the literature on craniopagus. A large area of brain was shared between the neurologically normal infants, with defects in the scalp, skull, and dura. The twins were separated in a three-step procedure. First, areas of shared brain were divided and separated with silicone sheets. The second procedure consisted of the insertion of scalp expanders to allow primary skin closure. In the third procedure complete separation was performed which was complicated by severe hypotension in one infant that was due to dural sinus hemorrhage. Cerebrospinal fluid leak was the most difficult problem encountered in the postoperative period; this was treated with lumboperitoneal and ventriculoperitoneal shunts. After 2 years, one twin is neurologically normal; the other is severely developmentally delayed, possibly related to the severe hypotension experienced during the third procedure. A review of the literature on craniopagus is presented. Analysis of data in the literature suggests that the area involved in the craniopagus as well as the venous connections are closely related to survival following separation of craniopagus twins.

Buck GM see **Kramer AA**

Bulman DE see **Ebers GC**

Burn J, Povey S, Boyd Y, Munro EA, West L, Harper K, Thomas D: Duchenne muscular dystrophy in one of monozygotic twin girls. J Med Genet 1986 Dec; 23(6):494–500
Monozygotic twin girls are reported, one of whom has the typical clinical features of Duchenne muscular dystrophy despite a normal female karyotype. Although certain features of the biopsy were atypical, the clinical diagnosis was supported by persistent markedly raised blood creatine kinase levels and findings typical of DMD on electromyography and magnetic resonance spectroscopy. Analysis of an X linked DNA polymorphism in 16 independent somatic cell hybrids made between cells derived from each girl and a mouse line suggest that in one twin only the maternal X chromosome is active, whereas in the other the active X was paternally derived. More data are needed to exclude sampling error. These preliminary experimental results support the hypothesis that both girls are heterozygous for Duchenne muscular dystrophy. X inactivation, by chance, resulted in two contrasting cell masses with different active X chromosomes. This segregation was followed by, and may even have resulted in, twinning into a female pair, one normal and one with the full clinical features of the disease.

Buzzetti M see **Comotti B**

C

Carlo WA see **Rosa FW**

Caro XJ see **Weiner SR**

Carroll D see **Turner JR**

Casasoprana A see **Razavi-Encha F**

Catovsky D see **Pombo de Oliveira MS**

Cazzuffi MA see **Weber G**

Cetrulo CL: The controversy of mode of delivery in twins: the intrapartum management of twin gestation (Part I). Semin Perinatol 1986 Jan;10(1):39–43

Chao CC see **Hung WT**

Chen HT see **Hung WT**

Chen WJ see **Hung WT**

Chervenak FA: The controversy of mode of delivery in twins: the intrapartum management of twin gestation (Part II). Semin Perinatol 1986 Jan; 10(1):44–9

Chiumello G see **Weber G**

Chopra JS see **Meshram CM**

Chou PJ see **Alkalay AL**

Clercx A see **Brion L**

Cleveland S see **Purrmann J**

Coblentz MG, Winchester P, Brill PW: Imaging case of the month. Cephalothoracopagus syncephalus (fused head and thorax with one face).
Am J Perinatol 1986 Oct;3(4):357–9

Cochlin DL see **Fitzgerald EJ**

Cohen DJ see **Leckman JF**

Cohen R see **Nee LE**

Colletto GM see **Barretto OC**

Comotti B, Bassan R, Buzzetti M, Finazzi G, Barbui T: Multiple myeloma in a pair of twins [letter] Br J Haematol 1987 Jan;65(1):123–4

Constantine G, Redman CW: Caesarean delivery of the second twin [letter] Lancet 1987 Mar 14; 1(8533):618–9

Corruccini RS see **Sharma K**

Cox NH, Mitchell JN, Morley WN: Lichen sclerosus et atrophicus in non-identical female twins [letter] Br J Dermatol 1986 Dec;115(6):743

Craft I see **Porter R**

Cragun J see **Growdon WA**

Crawford JS: A prospective study of 200 consecutive twin deliveries. Anaesthesia 1987 Jan;42(1):33–43

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A prospective study of a consecutive series of 200 twin pregnancies has provided some definitive and some tentative conclusions. It has been shown that in any attempt to assess the value of a form of clinical management, cases in which a nuchal cord was present in either twin must be disregarded and that attention must be paid to the techniques of analgesia/anaesthesia provided for delivery. There is a strong suggestion that the provision of an epidural for either Caesarean section or vaginal delivery is markedly beneficial to the second twin. There is also evidence to suggest that when vaginal delivery is conducted under an epidural, the acid-base status of the second twin is very likely to be as good as, or better than, that of its sibling, whereas that is most unlikely to be so among cases delivered without an epidural. Further benefit is conferred upon both twins if the bearing-down reflex is abolished. Attention is drawn to an apparently increasing frequency of abdominal delivery of the second twin following vaginal delivery of the first and to the consequent demand which this must make upon anaesthetic cover.

Croghan IT see **Kramer AA**

Crowther CA: Perinatal mortality in twin pregnancy. A review of 799 twin pregnancies. S Afr Med J 1987 Jan 24;71(2):73–4
There were 799 deliveries of twins at Harare Hospital during 1983. Of the 1598 infants 155 died, giving a perinatal mortality rate for twin pregnancy of 97/1,000, 3 times higher than the rate for singleton pregnancies. The most common cause of death was immaturity. The perinatal mortality rate was higher for second twins than for first twins. Factors important in decreasing perinatal mortality in twin pregnancy are discussed with reference to the literature.

D

D'Alton ME, Dudley DK: Ultrasound in the antenatal management of twin gestation. Semin Perinatol 1986 Jan;10(1):30–8 (50 ref.)

D'Alton ME see **Dudley DK**

Danziger Y see **Ashkenazi S**

D'Cruz CA see **Gibson JY**

De Angelis M see **Weber G**

DeFries JC see **LaBuda MC**

de la Maza LM see **Growdon WA**

Detemmerman D see **Brion L**

Dharan M see **Antonelli D**

Dodson MG see **Sulak LE**

Donovan J, Maizels M: Transplantation of the prepuce to facilitate hypospadias repair in monozygotic twins. J Urol 1986 Nov;136(5):1077–9
We report a case of free transplantation of the prepuce derived from a monozygotic twin to aid in the reconstruction of penoscrotal hypospadias in his brother. Although monozygotic twins discordant for hypospadias are seen rarely the possibility of preserving and transplanting the prepuce of the unaffected sibling should be considered to facilitate reconstruction of the phallus with hypospadias.

Dudley DK, D'Alton ME: Single fetal death in twin gestation. Semin Perinatol 1986 Jan;10(1):65–72

Dudley DK see **D'Alton ME**

Duquette P see **Ebers GC**

E

Ebers GC, Bulman DE, Sadovnick AD, Paty DW, Warren S, Hader W, Murray TJ, Seland TP, Duquette P, Grey T, et al: A population-based study of multiple sclerosis in twins. N Engl J Med 1986 Dec 25;315(26):1638–42
Results from studies of twin concordance in multiple sclerosis have not conclusively differentiated between environmental and genetic factors that determine susceptibility to the disease. Published studies that have been based on case finding by public appeal have been characterized by difficulties in ascertainment. The data reported here are from a large population-based study of multiple sclerosis in twins, in which ascertainment has been relatively unbiased and the cooperation of patients nearly complete. A total of 5463 patients attending 10 multiple sclerosis clinics across Canada were surveyed. Twenty-seven monozygotic and 43 dizygotic twin pairs were identified, and the diagnosis of multiple sclerosis was verified by examination and laboratory investigation. Seven of 27 monozygotic pairs (25.9 percent) and 1 of 43 dizygotic pairs (2.3 percent) were concordant for multiple sclerosis. The concordance rate for 4582 nontwin siblings of patients at two multiple sclerosis clinics was 1.9 percent, closely paralleling the concordance rate in dizygotic twins. To the extent that the difference in concordance rates between monozygotic and dizygotic twins indicates genetic susceptibility, the results of this study show a major genetic component in susceptibility to multiple sclerosis.

Eldridge R see **Nee LE**

Erskine RL, Ritchie JW, Murnaghan GA: Antenatal diagnosis of placental anastomosis in a twin pregnancy using Doppler ultrasound.
Br J Obstet Gynaecol 1986 Sep;93(9):955–9
Qualitative analysis of blood velocity in the umbilical arteries of twin fetuses detected by pulsed Doppler ultrasound revealed discordant patterns which permitted an accurate antenatal diagnosis of an artery-to-artery anastomosis. One twin was consistently larger than the other, had a normal umbilical artery impedance and survived; the other fetus was consistently smaller, had persistently high umbilical artery impedance and died in utero. The death of one fetus did not affect the blood flow patterns within the umbilical artery of the other up to delivery 24 h later. The case demonstrates that intrauterine morbidity due to vascular anastomoses is not confined to the transfusion of significant amounts of blood from one fetus to another.

Ezdinli EZ see **Jovanovic L**

F

Fakeye O: Twin birth weight discordancy in Nigeria. Int J Gynaecol Obstet 1986 Jun;24(3):235–8
The perinatal outcomes for 56 birth-weight discordant twin pairs among 622 total twin deliveries that occurred over an 18-month period at the University of Ilorin Teaching Hospital are analyzed. The incidence of twin birth-size discordancy was 9%. Mean birth-weight (kg) was 2.78 +/- 0.5 for the heavier twin and 1.90 +/- 0.5 for the smaller twin, with a mean intra-pair birth-weight difference of 0.88 kg (31.7% of the heavier twin). Perinatal mortality in the smaller infants was increased above the mean for all twin births. There were no perinatal deaths among the heavier infants. Discordant twinning was associated with high parity and a disproportionate increase of unlike-sex pairs. These observations suggest the preponderance of discordancy in dizygotic twinning. Increased

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awareness and surveillance for discrepant twin pairs are suggested in order to improve perinatal outcome.

Fakeye O: Perinatal factors in twin mortality in Nigeria. Int J Gynaecol Obstet 1986 Aug; 24(4):309–14
The results of a retrospective study involving 622 twin-pairs born over an 18-month period among 17,726 births at the University of Ilorin Teaching Hospital, Ilorin, Nigeria, are presented with particular reference to four variables: birthweight, presentation, parity, and intertwin delivery time interval. The twinning incidence was 35.1 per 1000. Monozygous and dizygous rates are 7 and 28 per 1000, respectively. Overall perinatal mortality (PNM) was 15.5%. Mortality was higher in second than in first twin (19.5% vs. 11.6%), and consistently higher when divided into birthweight groups. Corrected PNM increased with breech presentations: 16.3% in breech:breech compared with 3.9% in vertex:vertex presentations. The twinning rate increased with parity; PNM is low in parity 1, of little variation in birth-ranks 2–5, and high in para 6 and above. Delivery of the second twin within 15 min seems optimal, giving a corrected PNM 3.6% in contrast to rates of 10.1%, 14.0% and 19.1%, respectively when delivery occurred between 16 and 30, 31 and 60 and greater than 60 min, respectively. Prevention of preterm delivery, increased use of cesarean section delivery for malpresentation, active management of delivery of second twin within an optimal time of 15 min, and family planning are suggested in order to decrease twin PNM.

Farquhar DL, Griffiths JM, Munro JF, Stevenson F: Unexpected weight regain following successful jaw wiring. Scott Med J 1986 Jul;31(3):180

Ferer R see **Kramer AA**

Filler RM: Conjoined twins and their separation. Semin Perinatol 1986 Jan;10(1):82–91

Filler RM see **Zuker RM**

Finazzi G see **Comotti B**

Fine A see ***Fine JM***

Fine JM, Muller JY, Rochu D, Marneux M, Gorin NC, Fine A, Lambin P: Waldenström's macroglobulinemia in monozygotic twins. Acta Med Scand 1986;220(4):369–73
This paper reports a unique familial occurrence of Waldenström's macroglobulinemia (WM) in monozygotic twins. The determination of twin monozygosity has been performed by electrophoretic and immunological typing of genetic systems (erythrocyte blood groups, leucocyte antigens and serum protein polymorphism). The two monoclonal IgM differ one from the other by their light chain type and their idiotypic determinants. Although a genetic predisposition to WM exists in these twins, the gene recombination leading to idiotypic specificity and light chain assortment occurs independently of the monoclonal malignant involvement.

Fitzgerald EJ, Toi A, Cochlin DL: Conjoined twins. Antenatal ultrasound diagnosis and a review of the literature. Br J Radiol 1985 Nov;58(695):1053–6
Three sets of conjoined twins recently diagnosed by us in the antenatal period are presented. From these cases and a review of the literature we present the ultrasound diagnostic features of the various forms of this rare condition. We discuss the importance of associated anomalies and shared organs with their relevance to subsequent antenatal management and delivery. The importance of excluding this condition whenever twins are diagnosed on ultrasound is stressed.

Foroni L see **Pombo de Oliveira MS**

Frasch CE see **Hummell DS**

Friedman GD see **Austin MA**

Frisone F see **Weber G**

Fulker DW see **LaBuda MC**

G

Gaboardi F see **Weber G**

Gambon RC, Lentze MJ, Rossi E: Megaloblastic anaemia in one of monozygous twins breast fed by their vegetarian mother. Eur J Pediatr 1986 Dec; 145(6):570–1
Megaloblastic anaemia in infancy is uncommon in western countries. We describe a case of an exclusively breast-fed monozygous twin with severe vitamin B12 deficiency with haematologic and neurologic abnormalities. Treatment with vitamin B12 resulted in a rapid haematological and clinical improvement.

Gerhard I see **Trapp M**

Gibson JY, D'Cruz CA, Patel RB, Palmer SM: Acardiac anomaly: review of the subject with case report and emphasis on practical sonography. JCU 1986 Sep;14(7):541–5 (25 ref.)
The acardiac anomaly is a rare condition found only in monozygotic multiple pregnancies, usually twins. We present a review of the pathophysiology of acardia and a case report. Twin embryonic membrane formation is discussed, since a conceptual understanding of the subject is necessary for the early recognition of this and other severe anomalies. Emphasis is placed on close sonographic monitoring to insure the best chance of survival of the normal twin, who may die of heart failure if delivery is not properly timed.

Gifford S see **Ablon SL**

Gil I see **Segal R**

Gilbert A see **Mitre A**

Glenn J: Twinship themes and fantasies in the work of Thornton Wilder. Psychoanal Study Child 1986; 41:627–51

Glina S see **Mitre A**

Gonzales M see **Razavi-Encha F**

Gonzalez CL see **Alkalay AL**

Goolsby HJ see **Jovanovic L**

Goren E see **Segal R**

Gorin NC see **Fine JM**

Graff-Radford NR, Bosch EP, Stears JC, Tranel D: Developmental Foix-Chavany-Marie syndrome in identical twins. Ann Neurol 1986 Nov;20(5):632–5
Foix, Chavany, and Marie described a syndrome of faciopharyngoglossomasticatory diplegia resulting from bilateral anterior opercular infarction. We describe identical twins who have a developmental form of the syndrome. The twins, aged 41 years, were the product of a normal pregnancy and birth, but had subsequent delayed motor milestones, seizures, poor language development, mild mental retardation, drooling, absent gag reflexes, inability to protrude the tongue, brisk jaw jerks, impaired fine finger movements, symmetrical brisk reflexes, flexor plantar responses, and mildly spastic gait. Magnetic resonance imaging showed bilateral perisylvian cortical dysplasia compatible with polymicrogyria and incomplete opercular formation.

Green LJ see **Kramer AA**

Grey T see **Ebers GC**

Griffiths JM see **Farquhar DL**

Growdon WA, Apodaca L, Cragun J, Peterson EM, de la Maza LM: Neonatal herpes simplex virus infection occurring in second twin of an

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asymptomatic mother. Failure of a modern protocol. JAMA 1987 Jan 23-30;257(4):508-11
A case of neonatal herpes that occurred after vaginal delivery in the absence of genital lesions is presented. The mother had a history of drug addiction and genital herpes. Asymptomatic shedding of herpes simplex virus type 2 from the cervix was noted in the second trimester of pregnancy. Despite being followed with a protocol of close surveillance and serial culturing of the genital tract, the patient gave birth to twins, one of whom developed herpes simplex virus type 2 in the postpartum period. This report presents discussion of this case and herpes surveillance protocols.

H

Hader W see **Ebers GC**
Hald F see **Udesen M**
Haltia M, Tarkkanen A, Somer H, Palo J, Karli H: Neuronal intranuclear inclusion disease. Clinical ophthalmological features and ophthalmic pathology. Acta Ophthalmol (Copenh) 1986 Dec; 64(6):637-43
Monozygotic twin sisters were afflicted by a chronic progressive neurological disease characterized by slurred speech, nystagmus and oculogyral spasms as well as further extrapyramidal and lower motor neuron abnormalities. At autopsy severe loss of nigral and craniospinal motor neurons was noted. In the nuclei of most nerve cell types of the central and peripheral nervous system, roundish inclusion bodies of 3 to 10 microns in diameter were found. Ocular pathology revealed the presence of identical inclusion bodies in the ganglion cells and ganglion cell loss in the posterior retina. Retinal astrocytosis and loss of myelinated axons of the optic nerve were interpreted as reactive features. No inclusions were found in the retinal pigment epithelium. Careful neuro-ophthalmological studies of the first-degree relatives revealed low b-wave of the ERG with other slight aberrations. These were assumed to represent either a carrier or a subclinical state of this presumably inherited disorder.
Hamel P see **Bouchard C**
Hanna CE see **Mandel SH**
Hansen PK see **Mikkelsen AL**
Harada F, Sada M, Kamiya T, Yanase Y, Kawasaki T, Sasazuki T: Genetic analysis of Kawasaki syndrome. Am J Hum Genet 1986 Oct;39(4):537-9
Harper K see **Burn J**
Harper KJ, Beer WE: Congenital malalignment of the great toe-nails--an inherited condition. Clin Exp Dermatol 1986 Sep;11(5):514-6
Harrison AM see **Ablon SL**
Hays PM see **Redwine FO**
Helpap B see **Schwaibold H**
Henningsen K see **Larsen FS**
Hernandez C see **Rosa FW**
Herrington DM, Pearson TA: Clinical and angiographic similarities in twins with coronary artery disease. Am J Cardiol 1987 Feb 1;59(4):366-7
Hewitt JK see **Turner JR**
Holm NV see **Larsen FS**
Hori A: Sleep characteristics in twins. Jpn J Psychiatry Neurol 1986 Mar;40(1):35-46
Polysomnograms were recorded for three consecutive nights on 14 male students (mean age, 16), comprising 4 identical and 3 fraternal twin pairs. The number of body movements and the measures related to the REM cycle, which correlated among the identical twins without reference to the physical parameters, were considered to be determined by a genetic trait. The sleep spindle density was in almost complete concordance between the identical twins and was associated with some physical parameters, which suggests that sleep spindles rather reflect the individual development. %S3, %SREM and the number of SREM showed a relationship to the physical parameters, without heritability. Twitch movements during REM sleep correlated not only between the identical twins but also between the fraternal twins.
Horn JM see **Bailey JM**
Hoshina H, Tanaka O, Obara H, Iwai S: Thoracopagus conjoined twins: management of anesthetic induction and postoperative chest wall defect. Anesthesiology 1987 Mar;66(3):424-6
Hsu TC see **Hung WT**
Hulley SB see **Austin MA**
Hummell DS, Mocca LF, Frasch CE, Winkelstein JA, Jean-Baptiste HJ, Atilio Canas J, Leggiadro RJ: Meningitis caused by a nonencapsulated strain of Neisseria meningitidis in twin infants with a C6 deficiency. J Infect Dis 1987 Apr;155(4):815-8
Hung WT, Chen WJ, Chen HT, Hsu TC, Chao CC, Wu TT: Successful separation of ischiopagus tripus conjoined twins. J Pediatr Surg 1986 Nov; 21(11):920-3
This article describes an experience of successful separation of ischiopagus tripus conjoined twins and their subsequent courses for 76 months.
Hustedde CG see **Kent RD**

I

Iwai S see **Hoshina H**

J

James WH: Recent secular trends in dizygotic twinning rates in Europe. J Biosoc Sci 1986 Oct; 18(4):497-504
James WH: Dizygotic twinning, cycle day of insemination, and erotic potential of Orthodox Jews. Am J Hum Genet 1986 Oct;39(4):542-4
Jean-Baptiste HJ see **Hummell DS**
Johnson CD, Thomson H: Six synchronous colonic cancers in a pair of monozygotic twins. Dis Colon Rectum 1986 Nov;29(11):745-6
A pair of monozygotic twins presented within five months of each other with three colonic carcinomas each. The unusual presentation of multiple tumors in both twins suggests a genetic mutation. Both patients also had multiple lipomas.
Joseph SM see **Pattabiraman C**
Jovanovic L, Babich M, Thomas K, Goolsby HJ, Ezdinli EZ: Simultaneous cloacogenic carcinoma in dizygotic twins. Cancer 1987 Mar 15;59(6):1233-5
Dizygotic twins developed cloacogenic carcinoma of the anus almost simultaneously. The patients, although separated from the time they were 20-years-old, had very similar life styles. There are several reports in the medical literature of synchronous tumors in mono and dizygotic twins. It is recommended that if a cancer diagnosis is made in one twin, the other undergo workup to exclude the presence of a tumor with similar histology. The establishment of state or national twin registries would provide valuable information regarding the role of genetic and environmental factors in the development of not only cancer but also of various nonmalignant disorders.
Julian C see **Nee LE**

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K

Kamiya T see **Harada F**
Kantner G see **Tariverdian G**
Kaprio J see **Aho K**
Karli H see **Haltia M**
Karplus M see **Yagupsky P**
Kato K see **Trapp M**
Katz D see **Nee LE**
Katz I see **Molho M**
Katzir N see **Brok-Simoni F**
Kawasaki T see **Harada F**
Keith DM see **Schwartz RM**
Keith LG see **Schwartz RM**
Kelly KA see **Turner JR**

Kent RD, Osberger MJ, Netsell R, Hustedde CG: Phonetic development in identical twins differing in auditory function. J Speech Hear Disord 1987 Feb;52(1):64–75
The subjects of this report are identical (monozygotic) twin boys who differ in auditory function. One has normal hearing; the other has a profound hearing loss bilaterally. These boys offered a rare opportunity to study the effects of hearing loss on vocal development with reasonable control over environmental and genetic factors. This initial report focuses on their vocal development over the sampled ages of 8, 12, and 15 months. Acoustic-phonetic differences in the babbling of the two boys were evident in the 8-month sample (the first recording opportunity), and some differences between them became greater over the succeeding samples at 12 and 15 months. The major differences were in the formant patterns of vocalic elements; the frequency of occurrence of fricatives, affricates, and trills; histograms of syllable type; and variation in vowel usage. The data hold implications for the early identification of infants at risk for communication disorder and for the understanding of auditory-motor processes in phonetic development during infancy.

King MC see **Austin MA**
Kirkpatrick C see **Brion L**

Kitchens CS: Discordance in a pair of identical twin carriers of factor IX deficiency. Am J Hematol 1987 Feb;24(2):225–8
Female twin daughters of a man with hemophilia B were determined to be identical but widely discordant with respect to their degree of factor IX deficiency. The proposita had a marked deficiency (3%) of factor IX with clinical bleeding. She became pregnant. Delivery was managed with infusion of factor IX concentrates. These twins represent the second reported case of identical twins with discordant factor IX levels.

Knudsen LB see **Olsen J**
Koskenvuo M see **Aho K**

Kramer AA, Berg K, Nance WE: The effect of perinatal screening in Norway on the magnitude of noninherited risk factors for congenital dislocation of the hip. Am J Epidemiol 1987 Feb;125(2):271–6
Several investigators have noted an increase in the rate of congenital dislocation of the hip shortly after the initiation of neonatal screening procedures. This increase has been attributed to the detection of temporarily unstable hips which require no corrective treatment. To test whether neonatal screening had low specificity, the authors obtained data on 17,145 offspring of 7,896 twins from the Norwegian Twin Panel. Information from maternal reproduction history questionnaires was available on the presence or absence of congenital dislocation of the hip, type of obstetric delivery, and parity. The reported prevalence of the disorder did indeed begin to rise sharply during the late 1950s, at which time neonatal screening started in Norway. Infants were then grouped by year of birth (born before or after 1960), and odds ratios were calculated for breech delivery and early (first or second) parity. For the pre-screening group, the odds ratio of congenital dislocation of the hip was 7.7 among children delivered by breech presentation and 2.6 among those of early parity. These values are similar to those found in other studies. In the post-screening group, the odds ratios for breech delivery and early parity were 1.5 and 1.2, respectively. Breech delivery and early parity have been consistent risk factors for congenital dislocation of the hip. Their diminished influence in the post-screening group, as well as sharply increased rates of the disorder, suggests that in Norway neonatal screening programs may have had low specificity in detecting cases that required treatment.

Kramer AA, Green LJ, Croghan IT, Buck GM, Ferer R: Bivariate path analysis of twin children for stature and biiliac diameter: estimation of genetic variation and co-variation. Hum Biol 1986 Aug;58(4):517–25

Krishna A see **Pattabiraman C**
Kuboki T see **Suematsu H**
Kwan LW see **Weiner SR**

L

LaBuda MC, DeFries JC, Fulker DW: Multiple regression analysis of twin data obtained from selected samples. Genet Epidemiol 1986;3(6):425–33
The multiple regression analysis of twin data in which a cotwin's score is predicted from that of a proband (the member of a twin pair selected because of a deviant score) and the coefficient of relationship provides a powerful test of genetic etiology (DeFries and Fulker: Behav Genet 15:467–473, 1985). Moreover, when an augmented model containing an interaction term is fitted to the same data set, direct estimates of heritability (h2) and the proportion of variance owing to shared environmental influences (c2) are also obtained. In the present paper, the expected partial regression coefficients estimated from these models are derived, and the flexibility of the general approach is illustrated. An extended model is formulated for the analysis of data from combined samples of affected and control twin pairs that yields tests for differential h2 and c2 in the two groups as well as pooled estimates of these parameters. The application of these models is illustrated by an analysis of data from reading-disabled and control twin pairs. Because of the ease, flexibility, and utility of the multiple regression analysis of twin data, it is an appealing alternative to more traditional model-fitting approaches.

LaFranchi SH see **Mandel SH**
Lalla R see **Zuker RM**
Lambin P see **Fine JM**

Larsen FS, Holm NV, Henningsen K: Atopic dermatitis. A genetic-epidemiologic study in a population-based twin sample.
J Am Acad Dermatol 1986 Sep;15(3):487–94
Atopic dermatitis is a multifactorial disease that seems both to rise in frequency and to be dependent on a genetic predisposition. In order to clarify these issues we encircled a representative twin series with atopic dermatitis from a total twin population of 592 like-sexed twin pairs. We found that the cumulative

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incidence rate (0–7 years) of atopic dermatitis in Denmark has increased significantly from 0.03 for the birth cohort 1960–1964 to 0.10 for the birth cohort 1970–1974, that monozygotic twin pairs are more often concordant for atopic dermatitis than dizygotic twin pairs, that monozygotic twins run a risk of 0.86 of having atopic dermatitis if the twin partner has the disease, whereas the disease risk of 0.21 run by dizygotic partners does not differ from the frequency seen in ordinary brothers and sisters. The results indicate that genetic factors play a decisive role in the development of atopic dermatitis and that widespread environmental factors are operating in genetically susceptible individuals.

Leblanc C see **Bouchard C**

Leckman JF, Price RA, Walkup JT, Ort S, Pauls DL, Cohen DJ: Nongenetic factors in Gilles de la Tourette's syndrome [letter] Arch Gen Psychiatry 1987 Jan;44(1):100

Leggiadro RJ see **Hummell DS**

Leidenberger F see **Trapp M**

Lentze MJ see **Gambon RC**

Lesage R see **Bouchard C**

Lesser BA, Wendt D, Miks VM, Norum RA: Identical twins with hereditary hemorrhagic telangiectasia concordant for cerebrovascular arteriovenous malformations. Am J Med 1986 Nov;81(5):931–4
Central nervous system arteriovenous malformations are uncommon in hereditary hemorrhagic telangiectasia. Identical twins are described with hereditary hemorrhagic telangiectasia and concordance for central nervous system arteriovenous malformations identified by angiography. One twin had a central nervous system hemorrhage in the seventh month of pregnancy and also had a pulmonary arteriovenous malformation. The other was asymptomatic. A previously reported association between HLA type A2 BW17 and hereditary hemorrhagic telangiectasia was not confirmed. Two recombinations were identified between the loci for HLA and hereditary hemorrhagic telangiectasia. The loci for HLA and hereditary hemorrhagic telangiectasia are not closely linked. Stroke in a young person should prompt an inspection for manifestations of hereditary hemorrhagic telangiectasia.

Lewitter FI see **Redline S**

Little J, Bryan E: Congenital anomalies in twins. Semin Perinatol 1986 Jan;10(1):50–64 (154 ref.)

Lortie G see **Bouchard C**

Lundström A, McWilliam J: The influence of heredity and environment on six variables describing incisor orientation. Eur J Orthod 1986 Nov;8(4):259–64

Luzzatto L see **Pombo de Oliveira MS**

M

McDonald R see **Renvoize EB**

McMullan PF: Northern Ireland twin study 1983. Ulster Med J 1986 Oct;55(2):131–5

McWilliam J see **Lundström A**

Maizels M see **Donovan J**

Mandel SH, Hanna CE, LaFranchi SH: Diminished thyroid-stimulating hormone secretion associated with neonatal thyrotoxicosis. J Pediatr 1986 Oct; 109(4):662–5

Marcotte M see **Bouchard C**

Marneux M see **Fine JM**

Marsden CD: Parkinson's disease in twins [letter] J Neurol Neurosurg Psychiatry 1987 Jan;50(1):105–6

Mashiach S see **Rabinovici J**

Matutes E see **Pombo de Oliveira MS**

Mazzucchi E see **Mitre A**

Medearis AL see **Alkalay AL**

Meikle AW, Bishop DT, Stringham JD, West DW: Quantitating genetic and nongenetic factors that determine plasma sex steroid variation in normal male twins. Metabolism 1986 Dec;35(12):1090–5
We have observed that familial factors have a decided influence on the plasma content of sex steroids in men both in the general population and in men of families with prostatic cancer. The contribution of genetic and nongenetic familial factors on the variation of plasma sex steroid content and action has now been investigated in 75 pairs of normal male monozygotic (MZ) twins and 88 pairs of dizygotic (DZ) twins. Zygosity was determined by measuring ten blood proteins and enzymes. The mean plasma values for testosterone (T), dihydrotestosterone (DHT), estradiol (E2), estrone (E1), and 3 alpha-androstanediol glucuronide (3 alpha-diol G), free T, LH, FSH, SHBG, age, and degree of adiposity were all similar between the groups of twins. Familial factors (P less than 0.01) accounted for 50% or more of the variation in plasma hormone levels in MZ twins (3 alpha-diol G, 84%; T/DHT, 70%; T, 63%; E1, 63%; free T, 61%; E2, 57%; DHT, 56%; LH, 55%; and FSH, 54%) except for SHBG, which was 30%. The familial influence was greater in MZ twins than in DZ twins for all measurements except for SHBG. The heritability of the variation of hormone levels in plasma was determined from the equation: 2[rMZ(intraclass correlation) - rDZ]. Genes regulate 25% to 76% of the total variation of plasma content of the hormones except for DHT (12%) and SHBG (less than 1%). Genetic regulation of tissue DHT formation was suggested by observing a 48% genetic effect on the plasma content of 3 alpha-diol G.(ABSTRACT TRUNCATED AT 250 WORDS)

Meshram CM, Sawhney IM, Prabhakar S, Chopra JS: Ataxia telangiectasia in identical twins: unusual features. J Neurol 1986 Oct;233(5):304–5
The cases of identical twins with ataxia telangiectasia, early intellectual impairment and progressive spasticity are reported. Immunological tests revealed reduced levels of serum and salivary IgA, increased B cells, reduced T cells and raised alpha-fetoprotein. CT scan performed in one of the twins was normal. The pathogenesis of the spasticity is discussed.

Mikkelsen AL, Hansen PK: Survival of the second twin 37 days after abortion of the first. Acta Obstet Gynecol Scand 1986;65(7):795–6

Miks VM see **Lesser BA**

Miller B see **Purrmann J**

Mimouni M see **Ashkenazi S**

Mindham RH see **Renvoize EB**

Mitchell JN see **Cox NH**

Mitre A, Nahas W, Gilbert A, Glina S, Saiovici S, Mazzucchi E, Arap S: Urethral prolapse in girls: familial case. J Urol 1987 Jan;137(1):115

Mocca LF see **Hummell DS**

Molho M, Katz I, Schwartz E, Shemesh Y, Sadeh M, Wolf E: Familial bilateral paralysis of diaphragm. Adult onset. Chest 1987 Mar;91(3):466–7
At age 50 two homozygote twin brothers developed bilateral paralysis of the diaphragm. No infectious, metabolic, degenerative or proliferative disorders of the neuromuscular system and no thoracic diseases which could explain this lesion were detected during four years of follow-up. It appears thus to be an isolated lesion of genetic origin. To the best of our knowledge, no similar cases have been reported in literature.

AUTHOR SECTION

Morilla R see **Pombo de Oliveira MS**
Morley WN see **Cox NH**
Moses S see **Yagupsky P**
Muller JY see **Fine JM**
Mulliez N see **Razavi-Encha F**
Munoz A see **Redline S**
Munro EA see **Burn J**
Munro JF see **Farquhar DL**
Murnaghan GA see **Erskine RL**
Murray TJ see **Ebers GC**

N

Nahas W see **Mitre A**
Nance WE see **Bodurtha JN**
Nance WE see **Kramer AA**
Nee LE, Eldridge R, Sunderland T, Thomas CB, Katz D, Thompson KE, Weingartner H, Weiss H, Julian C, Cohen R: Dementia of the Alzheimer type: clinical and family study of 22 twin pairs. Neurology 1987 Mar;37(3):359–63
We studied 22 twin pairs in which one or both twins had dementia of the Alzheimer type (DAT). In four twins, diagnosis was confirmed by autopsy. Seven monozygotic (MZ) pairs were concordant for DAT; 10 MZ pairs were discordant. Two dizygotic (DZ) pairs were concordant for DAT, and 3 DZ pairs were discordant. The current concordance rate was 41% for MZ twins and 40% for DZ twins. The study supports the belief that, etiologically, DAT cannot be entirely accounted for by a single autosomal dominant gene. The data also suggest that in certain genetic circumstances, disease expression may be delayed in females.
Netsell R see **Kent RD**
Newton ER: Antepartum care in multiple gestation. Semin Perinatol 1986 Jan;10(1):19–29 (83 ref.)
Multiple gestation carries a significant risk of perinatal complications and mortality. Often twin neonates are delivered small and early with a perinatal mortality rate five to seven times that of singleton neonates. Increased morbidity and mortality is due to an increased incidence of antepartum complications, monozygotic pathology, preterm labor, and uteroplacental insufficiency. The key to management is early diagnosis, risk assessment, serial ultrasonography for fetal growth, and antepartum testing from 28 weeks until delivery. Prophylactic cerclage or tocolysis have not proven valuable. Reduction of maternal activity (bedrest) has theoretical advantages and is supported by retrospective studies, but not by prospective trials. The timing of delivery is based on the usual considerations. Third trimester uteroplacental insufficiency is identified by serial ultrasonographic exam and antepartum testing. Discordant fetal testing creates a dilemma: the risk of continued hypoxic damage to the sicker twin and the risks of premature delivery in the healthy twin. The management of this dilemma should be based on as much information as possible, ie, oxytocin challenge testing, biophysical profile and fetal lung maturity studies, and as much experience as possible, ie, a perinatal center, equipped to handle very sick premature infants.
Nonoyama K see **Barretto OC**
Norum RA see **Lesser BA**

O

Obara H see **Hoshina H**
Oehler U see **Schwaibold H**
Ogata E see **Suematsu H**
Olmstead KM see **Ainslie RC**
O'Loughlin DD see **Ainslie RC**
Olsen J, Knudsen LB: Twinning rates by residence in Denmark 1978 to 1982. Scand J Soc Med 1986; 14(3):147–50
It has been suggested in the literature that twinning rates are reduced by psychosocial stress associated with urban life. No support for this hypothesis was found in a study based upon the 5,762 twins and 280,158 singletons that were born in Denmark in the period 1978 to 1982.
Ort S see **Leckman JF**
Osberger MJ see **Kent RD**
O'Shea RT: Twin pregnancy: prematurity and perinatal mortality. Aust NZ J Obstet Gynaecol 1986 Aug;26(3):165–7
An 8-year (1976–1984) retrospective analysis was undertaken of the management and outcome of 245 twin pregnancies delivered at Flinders Medical Centre, Adelaide. The incidence of twin delivery was 1 in 69 with a perinatal mortality of 85.7 per 1,000 total births. Amongst 42 perinatal deaths, 28 were associated with preterm labour at or before 28 weeks' gestation. If bed rest in hospital is to be implemented as a possible means of improving perinatal outcome in twin pregnancy it needs to be effected between 21 and 28 weeks' gestation; there is no rational theoretical basis for hospitalization beyond this time.

P

Palamarchuk HJ: A study of the foot structure of athletic identical twins. J Am Podiatr Med Assoc 1986 Oct;76(10):592–4
Palmer SM see **Gibson JY**
Palo J see **Haltia M**
Pardou A see **Brion L**
Patel RB see **Gibson JY**
Pattabiraman C, Krishna A, Joseph SM: Aborted thoracopagus. Indian J Pediatr 1986 Jul–Aug; 53(4):531–3
Paty DW see **Ebers GC**
Pauls DL see **Leckman JF**
Paulus HE see **Weiner SR**
Pearson TA see **Herrington DM**
Peilan J see **Ashkenazi S**
Pérusse L see **Bouchard C**
Peterson EM see **Growdon WA**
Pombo de Oliveira MS, Awad el Seed FE, Foroni L, Matutes E, Morilla R, Luzzatto L, Catovsky D: Lymphoblastic leukaemia in Siamese twins: evidence for identity [letter] Lancet 1986 Oct 25; 2(8513):969–70
Pomerance JJ see **Alkalay AL**
Porter R, Smith B, Ahuja K, Tucker M, Craft I: Combined twin ectopic pregnancy and intrauterine gestation following in vitro fertilization and embryo transfer. J In Vitro Fert Embryo Transfer 1986 Oct; 3(5):330–2
Povey S see **Burn J**
Prabhakar S see **Meshram CM**
Price RA see **Leckman JF**
Purrmann J, Bertrams J, Borchard F, Miller B, Cleveland S, Stolze T, Strohmeyer G: Monozygotic *triplets with Crohn's disease of the colon.* Gastroenterology 1986 Dec;91(6):1553–9
Female monozygotic triplets all developed Crohn's disease within a period of 11 mo. The monozygosity was demonstrated by analysis of 24 genetic markers of different chromosomal localization. Crohn's

AUTHOR SECTION

disease was diagnosed using clinical, radiologic, and endoscopic findings. Histologic evaluation of bowel tissue was consistent with Crohn's disease. All 3 patients had colon involvement; the terminal ileum appeared normal. The patient in whom Crohn's disease was first diagnosed had the severest course. Our observations support the role of a genetic influence in the manifestation of Crohn's disease. Nevertheless, environmental factors or microorganisms, or both, have to be taken into account, perhaps as factors promoting the outbreak of Crohn's disease.

R

Rabinovici J, Barkai G, Reichman B, Serr DM, Mashiach S: Randomized management of the second nonvertex twin: vaginal delivery or cesarean section.
Am J Obstet Gynecol 1987 Jan;156(1):52–6
Sixty twin deliveries after the thirty-fifth gestational week with vertex-breech and vertex-transverse presentations were managed according to a randomization protocol. Thirty-three parturient women (21 vertex-breech and 12 vertex-transverse presentations) were allocated for vaginal delivery and 27 for cesarean section (18 vertex-breech and nine vertex-transverse). Six pairs of twins in the vaginal delivery group were delivered in a different mode than requested by the protocol (two women underwent cesarean section; in four cases the second twin spontaneously changed to vertex presentation). There were no significant differences between 1- and 5-minute Apgar scores and incidence of neonatal morbidity between the second-born twins in both study groups. Firstborn twins had higher 1-minute Apgar scores than the second-born infants irrespective of route of delivery (p less than 0.05). No case of birth trauma or neonatal death was recorded. Maternal febrile morbidity was significantly higher in the cesarean section group than in the vaginal delivery group (40.7% versus 11.1%, p less than 0.05). These results suggest that in twins with vertex-breech or vertex-transverse presentations after the thirty-fifth week of gestational age the neonatal outcome of the second twin was not significantly influenced by the route of delivery.

Razavi-Encha F, Mulliez N, Benhaiem-Sigaux N, Gonzales M, Casasoprana A, Bloch G, Roux C: Cardiovascular abnormalities in thoracopagus twins: embryological interpretation and review.
Early Hum Dev 1987 Jan;15(1):33–44
The cardiovascular abnormalities of two sets of thoracopagus twins with conjoined heart and liver are described and compared with 27 well documented cases. An embryological interpretation of the cardiovascular abnormalities is suggested. The common heart in both sets showed a common atrium and two ventricles. In case 1 the great arteries were L. malposed in twin A. In case 2 the great arteries originated from their respective double outlet single ventricle. The systemic and pulmonary veins drained directly into the common atrium in case 1 and indirectly via systemic veins in case 2. The type of cardiovascular abnormalities are complex and discordent from one set to another and in the same set. However among 27 published cases of thoracopagus twins, cardiac union, including atrial union with separate ventricles, or atrial and ventricular union, was encountered in 16 cases. Approximately 90% of them are not suitable for surgical separation because of the high degree of cardiac union and the complexity of cardiovascular abnormalities. Surgical separation could be attempted in only two cases, but at the cost of the life of one of the twins.

Rechavi G see **Brok-Simoni F**

Redline S, Tishler PV, Lewitter FI, Tager IB, Munoz A, Speizer FE: Assessment of genetic and nongenetic influences on pulmonary function. A twin study.
Am Rev Respir Dis 1987 Jan;135(1):217–22
To better understand the extent to which familial similarities in pulmonary function (PF) are attributable to genetic rather than to shared environmental influences, we studied the twinship aggregation of PF in 256 monozygotic (MZ) and 158 dizygotic (DZ) adult twin members of the Greater Boston Twin Registry. Genetic influences on various spirometric measures were estimated with twinship intrapair correlations adjusted using a regression model to control for similarities in the anthropomorphic characteristics of twins, and for the effects of a number of environmental factors that included childhood respiratory illness, occupational dust exposure, and smoking history. A significant influence of smoking on all air-flow measures was observed in this population for whom genetic similarities were adjusted. However, highly significant adjusted intrapair correlations for all spirometric measures, ranging from 0.52 to 0.76, were observed for the MZ twins. The intrapair correlations for the DZ twins were approximately one-half the magnitude of those for the MZ twins. These data suggest that a large proportion of the measured variability in PF may be accounted for by genetic influences other than those associated with body size.

Redman CW see **Constantine G**

Redwine FO, Hays PM: Selective birth.
Semin Perinatol 1986 Jan;10(1):73–81 (19 ref.)

Reichman B see **Rabinovici J**

Reif R see **Segal R**

Renvoize EB, Mindham RH, Stewart M, McDonald R, Wallace RD: Identical twins discordant for presenile dementia of the Alzheimer type.
Br J Psychiatry 1986 Oct;149:509–12
In genetically proven identical female twins, discordant for presenile dementia of the Alzheimer type, the affected twin began to dement at the age of 49, and died 15 years later; the diagnosis was confirmed at post-mortem. The surviving twin remains clinically unaffected 20 years after the onset of dementia in her sister. Environmental aetiological factors are postulated to account for this discordance.

Reuveni H see **Yagupsky P**

Ritchie JW see **Erskine RL**

Robinow M: Transient neonatal arthrogryposis: a presumed sequel of antenatal hypoxia [letter]
Am J Med Genet 1986 Sep;25(1):167–8

Rochu D see **Fine JM**

Rosa FW, Hernandez C, Carlo WA: Griseofulvin teratology, including two thoracopagus conjoined twins [letter] Lancet 1987 Jan 17;1(8525):171

Rossi E see **Gambon RC**

Roux C see **Razavi-Encha F**

S

Sada M see **Harada F**

Sadeh M see **Molho M**

Sadovnick AD see **Ebers GC**

Saiovici S see **Mitre A**

Sasazuki T see **Harada F**

AUTHOR SECTION

Sawhney IM see **Meshram CM**
Schieken R see **Bodurtha JN**
Schwaibold H, Oehler U, Helpap B, Böhm N: Sirenomelia and anencephaly in one of dizygotic twins. Teratology 1986 Dec;34(3):243–7
The combination of sirenomelia and anencephaly was observed in a stillborn dizygotic twin. A review of the literature revealed no other patients reported to have both conditions. Various explanations concerning the genesis of sirenomelia, and also the combination with anencephaly, are discussed.
Schwartz E see **Molho M**
Schwartz RM, Keith LG, Keith DM: The Nordic contribution to the English language twin literature. Acta Obstet Gynecol Scand 1986;65(6):599–604
This project was inspired by the extensive contribution of Nordic researchers to the English language twin literature. The purpose of the study was to compile a source bibliography of twin literature written at Nordic institutions. The bibliography compiled as a supplement for this paper provides as complete a survey as is possible to obtain in the United States. Our search began with a Medline Computer data base. To make our survey more complete, we cross-referenced and added to this using the Index Medicus, the National Institute of Mental Health Bibliography, Excerpta Medica, specific article references, references provided by Nordic university libraries and Gedda's Estudio dei Gemelli. The full bibliography of 313 references is available at no cost from the Center for the study of multiple Birth, Rm. 476, 333 E. Superior, Chicago, Ill. 60611, U.S.A.
Segal R, Reif R, Goren E, Gil I: Malignant testicular tumors in identical twins. Eur Urol 1986;12(6):443–5
Two cases of testicular malignancy in a pair of identical twins are reported. The literature is also reviewed. The tumors appeared within 7 years of each other. The histology was different in both cases.
Segrest J see **Bodurtha JN**
Seland TP see **Ebers GC**
Serr DM see **Rabinovici J**
Sharma K: Higher risk of epilepsy in twins. Indian J Pediatr 1986 Jul-Aug;53(4):515–9
Sharma K, Corruccini RS: Odontometric variations of permanent crown in Punjabi and U.S. twins. J Craniofac Genet Dev Biol 1986;6(3):325–30
The study reports odontometric variations within and between Punjabi and U.S. twins. The data are based on 23 MZ and 35 DZ Punjabi twin pairs and 32 MZ and 43 DZ U.S. pairs. None of the t' tests indicates differences between MZ and DZ mean dental dimensions in either sample. Mean tooth dimensions of Punjabi twins are in general greater than those of U.S. twins with significant differences for about 25% of the traits. Coefficient of variation is highest in lateral incisors and canines and lowest in first molars in both samples. The two samples differ more in their variances than in their means. The results indicate that buccolingual dimensions of mandibular traits are under relatively greater selection pressure.
Shemesh Y see **Molho M**
Shin YS see **Böhles H**
Shindler EI see **Shindler SL**
Shindler SL, Shindler EI: Recurrent plantar fibromatosis in twins [letter] J Am Podiatr Med Assoc 1986 Nov;76(11):654
Shively RE see **Bucholz RD**
Shmilovitz L see **Antonelli D**
Simoneau JA see **Bouchard C**
Sims J see **Turner JR**
Smith B see **Porter R**
Somasundaram K, Wong KS: Ischiopagus tetrapus conjoined twins. Br J Surg 1986 Sep;73(9):738–41
Two sets of ischiopagus conjoined twins were successfully operated on at the University Hospital, Kuala Lumpur in 1981 and 1982. The anatomy of the organ and system malformations are discussed which determined the technique of reconstruction after surgical separation to obtain optimum cosmetic and functional results. Permanent colostomy was not required in any of the four twins and in only one twin was there a need for urinary diversion.
Somer H see **Haltia M**
Speizer FE see **Redline S**
Stears JC see **Graff-Radford NR**
Stevenson F see **Farquhar DL**
Stewart M see **Renvoize EB**
Stolze T see **Purrmann J**
Stringham JD see **Meikle AW**
Strohmeyer G see **Purrmann J**
Suematsu H, Kuboki T, Ogata E: Anorexia nervosa in monozygotic twins. Psychother Psychosom 1986; 45(1):46–50
Which is more important, hereditary factors or psychological environment factors, in the etiology of anorexia nervosa? The question is studied by considering 7 cases of anorexia nervosa in monozygotic twins of the authors' own practice. In 5 of 7 cases, only 1 of a set of twins was found to be suffering from anorexia nervosa. On the other hand, in 2 of 7 cases, both twins were diagnosed as having anorexia nervosa. Even in the concordant cases studied by the authors, however, the quality or degree of anorexia nervosa in each case was different. Therefore, even given the existence of concordant cases, without inquiring precisely into the quality or degree of anorexia nervosa, it is not possible to conclude that hereditary factors play a determining role in the etiology of anorexia nervosa.
Sulak LE, Dodson MG: The vanishing twin: pathologic confirmation of an ultrasonographic phenomenon. Obstet Gynecol 1986 Dec;68(6):811–5
Although the phenomenon of the 'vanished twin' has been noted repeatedly through the use of ultrasound, no confirmatory histologic evidence has been presented previously. This has raised questions concerning the validity of the vanishing twin syndrome. In the following case, a triplet intrauterine pregnancy was diagnosed ultrasonographically four weeks after in vitro fertilization, but only a single fetus and placenta were delivered at term. Careful examination of the placenta revealed histologic evidence of the vanished twin. This evidence consisted of a chorion-lined sac containing amorphous material, surrounded by degenerated chorionic villi juxtaposed against a normal amniochorionic membrane.
Sunderland T see **Nee LE**

T

Tager IB see **Redline S**
Tanaka O see **Hoshina H**
Tariverdian G, Kantner G, Vogel F: A monozygotic twin pair with Rett syndrome. Hum Genet 1987 Jan; 75(1):88–90
A five-year-old, monozygotic, Turkish female twin pair with Rett syndrome is described. The twins are almost completely concordant in all clinical signs. This observation suggests a genetic cause of Rett syndrome.
Tarkkanen A see **Haltia M**
Thériault G see **Bouchard C**

AUTHOR SECTION

Thibault MC see **Bouchard C**
Thomas CB see **Nee LE**
Thomas D see **Burn J**
Thomas K see **Jovanovic L**
Thompson KE see **Nee LE**
Thomson H see **Johnson CD**
Tishler PV see **Redline S**
Toi A see **Fitzgerald EJ**
Tranel D see **Graff-Radford NR**
Trapp M, Kato K, Bohnet HG, Gerhard I, Weise HC, Leidenberger F: Human placental lactogen and unconjugated estriol concentrations in twin pregnancy: monitoring of fetal development in intrauterine growth retardation and single intrauterine fetal death. Am J Obstet Gynecol 1986 Nov;155(5):1027-31
Human placental lactogen and unconjugated estriol concentrations in maternal serum were evaluated in 100 uneventful twin pregnancies, and these values were compared with those observed in 16 twin pregnancies associated with intrauterine growth retardation or single intrauterine fetal death. In pregnancies associated with intrauterine growth retardation (n = 8), human placental lactogen levels were at the lower limit of normal range for singleton pregnancies, whereas estriol levels were normal in most cases. When one of the fetuses had died before week 33 of pregnancy (n = 5), both human placental lactogen and estriol levels were low and they were almost at the levels in singleton pregnancy. When intrauterine fetal death occurred after week 36 of pregnancy (n = 3), both hormone levels remained normal until term. Thus human placental lactogen rather than estriol is a good indicator of intrauterine growth retardation in twin pregnancy. Both human placental lactogen and estriol are useful for the monitoring of the surviving fetus in the case of single intrauterine fetal death.
Tsuboi T: Genetic analysis of febrile convulsions: twin and family studies. Hum Genet 1987 Jan;75(1):7-14
Thirty-two twin pairs and 673 sibship-cases with febrile convulsions (FC) were studied. Twin study: The pairwise concordance rate for FC was 56% (10/18 pairs) in monozygotic and 14% (2/14 pairs) in dizygotic twins (P less than 0.05). Intra-pair similarity of clinical symptoms in concordant twin pairs was greater than that in sibship-cases. Sibship-pair study (population): In sibship-pair study a large positive correlation of some clinical symptoms - in particular, age at onset of FC, exogenous factors, and degree of fever (P less than 0.001 for each) - was indicated. Compared with FC children with no family history, those with such family history had a higher frequency of age at onset between 8 and 19 months, exogenous factors, low degree of fever before onset of convulsions, many recurrences, and recurrence after age 3 (P less than 0.01-0.001 for each). Morbidity risk among near relatives was highest in first-degree relatives (16%) than in second (4.0%) or third-degree relatives (4.1%). The following differences were found: siblings (24%) greater than parents (12%), uncles (4.5%) greater than aunts (3.5%), male cousins (4.4%) greater than female cousins (3.8%). Segregation ratio, influence by affection of father or mother, and maternal preponderance were analysed. Similar findings were also observed in the clinic study. A multifactorial mode of inheritance for FC receives some support from this study, and the heritability was estimated to be 75% in the population study. The results may be useful for genetic counselling for FC.
Tucker M see **Porter R**
Tuominen J see **Aho K**
Turner JR, Carroll D, Sims J, Hewitt JK, Kelly KA: Temporal and inter-task consistency of heart rate reactivity during active psychological challenge: a twin study. Physiol Behav 1986;38(5):641-4
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complex anatomy not suspected before operation. The experience in patients with esophageal atresia and tracheoesophageal fistula who were twins was reviewed at the Children's Hospital of Los Angeles. Of 245 patients seen in the past 23 years, 16 were twins (only two of whom were siblings). Six of the 16 patients (38%) had other than the most frequent anatomy, i.e., proximal atresia of the esophagus and distal fistula. Two of these patients had extremely complex anatomy. Twenty-five per cent of the patients had a right aortic arch compared with 5% of all patients with tracheoesophageal fistula. The surgeon who encounters a twin with esophageal atresia or tracheoesophageal fistula is appropriately cautioned that significant anatomic complexity may be encountered.

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Intra-abdominal tissue expansion routinely occurs physiologically with pregnancy and may be seen in a variety of pathologic states. There are a number of situations where additional abdominal wall would be helpful. We encountered such a situation in a set of ischiopagus conjoined twins. In effect, separation would result in an abdominal wall deficit of approximately 50%. As an alternative to intraperitoneal air, we inserted two 1,000 mL tissue expanders through a subcostal incision at 6 months of age. Over the ensuing 7 weeks, each expander was gradually inflated to greater than capacity (1,250 mL each). Except for initial ileus, there was no difficulty in expanding the abdomen to enormous proportions. At the time of surgical separation, the expanders were removed and the available abdominal wall tissue almost closed directly on both children. Closure was complete in one baby, whereas a small upper abdominal wall defect was left in the other, necessitating Marlex reinforcement. There has been a recent explosion in the use of tissue expanders in reconstructive surgery. From head to toe, soft tissue can be expanded to be used as flaps, to close donor defects, or both. With this report, its use intra-abdominally is described. Future application is limited only by our ingenuity and imagination.