

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.

BEHAVIOR & PHYSIOLOGY

- Genetic factors in interpersonal variance of field dependence-independence indicators. Egorova MS. *Act Nerv Super (Praha)* 1987 Mar; 29(1):19-22
- † Influence of family alcoholism history on alcohol metabolism, sensitivity, and tolerance. Nagoshi CT, et al. *Alcoholism (NY)* 1987 Aug;11(4):392-8
- † Genetic influences on use and abuse of alcohol: a study of 5638 adult Finnish twin brothers. Kaprio J, et al. *Alcoholism (NY)* 1987 Aug; 11(4):349-56
- † Intracranial hemorrhage in low-birth-weight twins during neonatal period. Dincsoy MY, et al. *Am J Perinatol* 1987 Jul;4(3):220-4
- Identical twins' nonidentical responses to lithium [letter] Hoffmann WF. *Am J Psychiatry* 1987 Sep;144(9):1240-1
- Genetics of suicide. Roy A. *Ann NY Acad Sci* 1986;487:97-105
- † Family environment, not heredity, accounts for family resemblances in food preferences and attitudes: a twin study. Rozin P, et al. *Appetite* 1987 Apr;8(2):125-34
- † Left cerebral hemisphere hypodensity in discordant schizophrenic twins. A controlled study. Reveley MA, et al. *Arch Gen Psychiatry* 1987 Jul;44(7):625-32
- † Symptoms of anxiety and symptoms of depression. Same genes, different environments? Kendler KS, et al. *Arch Gen Psychiatry* 1987 May; 44(5):451-7
- † Twin concordance for DSM-III schizophrenia. Scrutinizing the validity of the definition. Farmer AE, et al. *Arch Gen Psychiatry* 1987 Jul; 44(7):634-41
- † Lifestyle factors affecting intrapair differences of serum apoproteins and cholesterol concentrations in adult identical twins. Hayakawa K, et al. *Atherosclerosis* 1987 Jul; 66(1-2):1-9
- Twin study [letter] Andrews G. *Aust NZ J Psychiatry* 1986 Dec;20(4):502
- Asymmetry of a-b ridge count and behavioral discordance of monozygotic twins. Rose RJ, et al. *Behav Genet* 1987 Mar;17(2):125-40
- Physical attractiveness and the personality resemblance of identical twins. Rowe DC, et al. *Behav Genet* 1987 Mar;17(2):191-201
- † Growth study including stereophotogrammetry of a pair of monozygotic twins, one having a cleft lip and palate. Burke P, et al. *Br J Orthod* 1987 Apr;14(2):73-84
- A genetic epidemiologic study of self-report suspiciousness. Kendler KS, et al. *Compr Psychiatry* 1987 May-Jun;28(3):187-96
- The effect of congenital cardiac disease on facial growth in a monozygotic twin pair, studied by stereophotogrammetry. Burke P, et al. *Eur J Orthod* 1987 May;9(2):97-103
- † Ultrasonographical evaluation of the incidence of simultaneous and independent movements in twin fetuses. Sadovsky E, et al. *Gynecol Obstet Invest* 1987;23(1):5-9
- † Blood pressure reactivity in adult male twins. Smith TW, et al. *Health Psychol* 1987; 6(3):209-20
- † A twin study of genetic influences on reading and spelling ability and disability. Stevenson J, et al. *J Child Psychol Psychiatry* 1987 Mar; 28(2):229-47
- † Effects of phenobarbital on early intellectual and behavioral development: a concordant twin case study. Byrne JM, et al.
- † *J Clin Exp Neuropsychol* 1987 Aug;9(4):393-8
- † Congenital ocular motor apraxia in twins. Findings with magnetic resonance imaging. Borchert MS, et al. *J Clin Neuro Ophthalmol* 1987 Jun; 7(2):104-7
- † The fragile-X syndrome in twin sisters. Cowie VA, et al. *J Ment Defic Res* 1987 Mar;31 (Pt 1):81-5
- † Cerebral metabolism, anatomy, and cognition in monozygotic twins discordant for dementia of the Alzheimer type. Luxenberg JS, et al. *J Neurol Neurosurg Psychiatry* 1987 Mar; 50(3):333-40
- Transient global amnesia and migraine in twin sisters [letter] Dupuis MJ, et al. *J Neurol Neurosurg Psychiatry* 1987 Jun; 50(6):816-7
- The growth of twins. Buckler JM. *Midwife Health Visit Community Nurse* 1987 May;23(5):208-10
- Double exposure—coping with newborn twins at home. Spillman JR. *Midwife Health Visit Community Nurse* 1987 Mar;23(3):92-4
- Coping with the death of a twin. Lewis E. *Midwife Health Visit Community Nurse* 1987 Apr;23(4):158-61
- Narcolepsy in monozygotic twins. Montplaisir J, et al. *Neurology* 1987 Jun;37(6):1089
- † Pharmacogenetic study with diazepam in twins. Alda M, et al. *Neuropsychobiology* 1987; 17(1-2):4-8
- † P300 from identical twins. Polich J, et al. *Neuropsychologia* 1987;25(1B):299-304
- † Characterization of the growth-discordant twin. Blickstein I, et al. *Obstet Gynecol* 1987 Jul; 70(1):11-5
- † Left-handedness in twin families: support of an environmental hypothesis. Tamba K, et al. *Percept Mot Skills* 1987 Feb;64(1):155-70
- Genetic influence, brain morphology, and cognitive deficits in alcoholic twins. Gurling HM, et al. *Prog Clin Biol Res* 1987;241:71-82
- Genetic differences in drinking habits, alcohol metabolism and sensitivity in unselected samples of twins. Martin NG. *Prog Clin Biol Res* 1987; 241:109-19

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

GENETIC TRAITS & METHODS

- † Metric analyses of the teeth and faces of South Australian twins. Townsend GC, et al. *Acta Genet Med Gemellol (Roma)* 1986; 35(3-4):179-92
- † Congenital malformations in twins: a population study. Källén B. *Acta Genet Med Gemellol (Roma)* 1986; 35(3-4):167-78
- † Late onset coeliac disease in the monozygotic twin of a coeliac child. Salazar de Sousa J, et al. *Acta Paediatr Scand* 1987 Jan;76(1):172-4
- † A joint international study on the epidemiology of hypospadias. Källén B, et al. *Acta Paediatr Scand [Suppl]* 1986;324:1-52
- † Influence of family alcoholism history on alcohol metabolism, sensitivity, and tolerance. Nagoshi CT, et al. *Alcoholism (NY)* 1987 Aug;11(4):392-8
- † Genetic influences on use and abuse of alcohol: a study of 5638 adult Finnish twin brothers. Kaprio J, et al. *Alcoholism (NY)* 1987 Aug; 11(4):349-56
- † Environmental and behavioral determinants of fasting plasma glucose in women. A matched co-twin analysis. Selby JV, et al. *Am J Epidemiol* 1987 Jun;125(6):979-88
- New syndrome: mixed hearing loss, mental deficiency, growth retardation, short clubbed digits, and EEG abnormalities in monozygous female twins. Pfeiffer RA. *Am J Med Genet* 1987 Jul;27(3):639-44
- † Two treatment approaches for missing or peg-shaped maxillary lateral incisors: a case study on identical twins. Miller WB, et al. *Am J Orthod Dentofacial Orthop* 1987 Sep; 92(3):249-56
- Identical twins' nonidentical responses to lithium [letter] Hoffmann WF. *Am J Psychiatry* 1987 Sep;144(9):1240-1
- Parkinson's disease, twins, and the DNA-damage hypothesis [letter] Robbins JH. *Ann Neurol* 1987 Apr;21(4):412
- Genetics of suicide. Roy A. *Ann NY Acad Sci* 1986;487:97-105
- † Symptoms of anxiety and symptoms of depression. Same genes, different environments? Kendler KS, et al. *Arch Gen Psychiatry* 1987 May; 44(5):451-7
- † Twin concordance for DSM-III schizophrenia. Scrutinizing the validity of the definition. Farmer AE, et al. *Arch Gen Psychiatry* 1987 Jul; 44(7):634-41
- † Left cerebral hemisphere hypodensity in discordant schizophrenic twins. A controlled study. Reveley MA, et al. *Arch Gen Psychiatry* 1987 Jul;44(7):625-32
- † Double teeth with hypodontia in identical twins. Nik-Hussein NN, et al. *ASDC J Dent Child* 1987 May-Jun;54(3):179-81
- A study of dentofacial morphology in South Australian twins. Brown T, et al. *Aust Dent J* 1987 Apr;32(2):81-90
- Twin study [letter] Andrews G. *Aust NZ J Psychiatry* 1986 Dec;20(4):502
- Asymmetry of a-b ridge count and behavioral discordance of monozygotic twins. Rose RJ, et al. *Behav Genet* 1987 Mar;17(2):125-40
- † Regression analysis in the presence of heterogeneous intraclass correlations. Muñoz A, et al. *Biometrics* 1986 Sep;42(3):653-8
- Mirror image dental anomalies in identical twins. Carton A, et al. *Br Dent J* 1987 Mar 7; 162(5):193-4
- † Growth study including stereophotogrammetry of a pair of monozygotic twins, one having a cleft lip and palate. Burke P, et al. *Br J Orthod* 1987 Apr;14(2):73-84
- † Mammographic patterns in twin pairs discordant for breast cancer. Kaprio J, et al. *Br J Radiol* 1987 May;60(713):459-62
- † Evidence of beta cell dysfunction which does not lead on to diabetes: a study of identical twins of insulin dependent diabetics. Heaton DA, et al. *Br Med J [Clin Res]* 1987 Jan 17; 294(6565):145-6
- † The syndrome of osteopetrosis in siblings: its occurrence in two sisters in Nigeria. Adeloye A. *Childs Nerv Syst* 1987;3(2):128-31
- † Abnormal lymphocyte function in scleroderma: a study on identical twins. Dustoor MM, et al. *Clin Immunol Immunopathol* 1987 Jul;44(1):20-30
- A genetic epidemiologic study of self-report suspiciousness. Kendler KS, et al. *Compr Psychiatry* 1987 May-Jun;28(3):187-96
- † Vernal keratoconjunctivitis: new corneal findings in fraternal twins. Rosenthal WN, et al. *Cornea* 1984-85;3(4):288-90
- † Topical minoxidil for male pattern alopecia in two sets of twins. Roenigk HH Jr, et al. *Cutis* 1987 Apr;39(4):329
- † Genetic aspects of the EEG: an investigation into the within-pair similarity of monozygotic and dizygotic twins with a new method of analysis. Stassen HH, et al. *Electroencephalogr Clin Neurophysiol* 1987 Jun; 66(6):489-501
- † Stenosed bicuspid aortic valves in twins. Godden DJ, et al. *Eur Heart J* 1987 Mar;8(3):316-8
- † Heredity and changes in body composition and adipose tissue metabolism after short-term exercise-training. Poehlman ET, et al. *Eur J Appl Physiol* 1987;56(4):398-402
- A comparison of vertical and horizontal cephalometric variables with regard to heritability. Lundström A, et al. *Eur J Orthod* 1987 May;9(2):104-8
- The effect of congenital cardiac disease on facial growth in a monozygotic twin pair, studied by stereophotogrammetry. Burke P, et al. *Eur J Orthod* 1987 May;9(2):97-103
- † A cytogenetic and endocrinologic study of a set of monozygotic isokaryotic 45,X/46,XY twins discordant for phenotypic sex: mosaicism versus chimerism. Reindollar RH, et al. *Fertil Steril* 1987 Apr;47(4):626-33
- † Blood pressure reactivity in adult male twins. Smith TW, et al. *Health Psychol* 1987; 6(3):209-20
- Treatment planning a compromised cleft palate patient with a normal identical twin reference. Woodhams DE. *J Am Acad Gnathol Orthop* 1987 Jun;4(2):4-7, 23
- † A twin study of genetic influences on reading and spelling ability and disability. Stevenson J, et al. *J Child Psychol Psychiatry* 1987 Mar; 28(2):229-47
- † Effects of phenobarbital on early intellectual and behavioral development: a concordant twin case study. Byrne JM, et al. *J Clin Exp Neuropsychol* 1987 Aug;9(4):393-8
- † Genetic determinants of bone mass in adults. A twin study. Pocock NA, et al. *J Clin Invest* 1987 Sep;80(3):706-10
- † Transmission of human immunodeficiency virus from parents to only one dizygotic twin. Park CL, et al. *J Clin Microbiol* 1987 Jun; 25(6):1119-21

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

GENETIC TRAITS & METHODS

- † Congenital ocular motor apraxia in twins. Findings with magnetic resonance imaging. Borchert MS, et al. *J Clin Neuro Ophthalmol* 1987 Jun; 7(2):104-7
- † Secondary cases of invasive disease caused by spread of *Haemophilus influenzae* type b. Eskola J, et al. *J Infect* 1987 May;14(3):233-6
- † The fragile-X syndrome in twin sisters. Cowie VA, et al. *J Ment Defic Res* 1987 Mar;31 (Pt 1):81-5
- Transient global amnesia and migraine in twin sisters [letter] Dupuis MJ, et al. *J Neurol Neurosurg Psychiatry* 1987 Jun; 50(6):816-7
- † Cerebral metabolism, anatomy, and cognition in monozygotic twins discordant for dementia of the Alzheimer type. Luxenberg JS, et al. *J Neurol Neurosurg Psychiatry* 1987 Mar; 50(3):333-40
- † The clinical consequences of X-chromosome inactivation: Duchenne muscular dystrophy in one of monozygotic twins. Pena SD, et al. *J Neurol Sci* 1987 Jul;79(3):337-44
- Chronic mucocutaneous candidosis in monozygotic twins. MacLeod RI, et al. *J Oral Maxillofac Surg* 1987 Jul;45(7):616-8
- The zygosity determination of Japanese twins using a minisatellite core probe. Motomura K, et al. *Jinru I dengaku Zasshi* 1987 Mar;32(1):9-14
- Multiple sclerosis in twins [letter] [published erratum appears in *N Engl J Med* 1987 Aug 27;317(9):580] *N Engl J Med* 1987 Jul 2; 317(1):50-2
- Narcolepsy in monozygotic twins. Montplaisir J, et al. *Neurology* 1987 Jun;37(6):1089
- † Monozygotic female twin carriers discordant for the clinical manifestations of Duchenne muscular dystrophy. Chutkow JG, et al. *Neurology* 1987 Jul;37(7):1147-51
- † Left-handedness in twin families: support of an environmental hypothesis. Tambs K, et al. *Percept Mot Skills* 1987 Feb;64(1):155-70
- † Crohn's disease in monozygotic twins. Rampton DS, et al. *Postgrad Med J* 1986 Nov; 62(733):1047-9
- Genetic differences in drinking habits, alcohol metabolism and sensitivity in unselected samples of twins. Martin NG. *Prog Clin Biol Res* 1987; 241:109-19
- Genetic influence, brain morphology, and cognitive deficits in alcoholic twins. Gurling HM, et al. *Prog Clin Biol Res* 1987;241:71-82
- Concurrent spontaneous pneumothorax in identical twins. Rashid A, et al. *Thorax* 1986 Dec;41(12):971
- † Genetic investigations in atopic dermatitis. Schultz Larsen F, et al. *Tissue Antigens* 1987 Jan; 29(1):1-6
- Concordance-discordance rate in twins unilateral clefts. Markovic M. *Zahn Mund Kieferheilkd* 1987;75(2):143-7

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

OBSTETRICS & PEDIATRICS

- † A fall in the rate of multiple births in Ibadan and Igbo Ora, Nigeria. Marinho AO, et al. *Acta Genet Med Gemellol (Roma)* 1986; 35(3-4):201-4
- † Preterm deliveries in twin pregnancies in Oxford. Watson P, et al. *Acta Genet Med Gemellol (Roma)* 1986; 35(3-4):193-9
- † A joint international study on the epidemiology of hypospadias. Källén B, et al. *Acta Paediatr Scand [Suppl]* 1986;324:1-52
- † Renal and cerebral necrosis in survivor after in utero death of co-twin. Bulla M, et al. *Arch Gynecol* 1987;240(2):119-24
- † Patent ductus arteriosus after prolonged treatment with indomethacin during pregnancy: case report. Atad J, et al. *Int J Gynaecol Obstet* 1987 Feb;25(1):73-6
- Collaborative management of twins. Two case studies. Halfar MM. *J Nurse Midwifery* 1987 May-Jun;32(3):140-8
- † Outcomes of twin gestations at the University of Colorado Health Sciences Center, 1973-1983. Thompson SA, et al. *J Reprod Med* 1987 May; 32(5):328-39
- Sonographic demonstration of combined quadruplet gestation, with viable ectopic and concomitant intrauterine triplet pregnancies. Rowland DM, et al. *J Ultrasound Med* 1987 Feb; 6(2):89-91
- Coping with the death of a twin. Lewis E. *Midwife Health Visit Community Nurse* 1987 Apr;23(4):158-61
- The growth of twins. Buckler JM. *Midwife Health Visit Community Nurse* 1987 May;23(5):208-10
- † Characterization of the growth-discordant twin. Blickstein I, et al. *Obstet Gynecol* 1987 Jul; 70(1):11-5
- Combined vaginal-abdominal delivery of twins. Roopnarinesingh S. *West Indian Med J* 1987 Mar;36(1):17-8

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

GENERAL

- Fifth International Congress on Twin Studies. Amsterdam, 15–19 September 1986. Abstracts. *Acta Genet Med Gemellol (Roma)* 1986; 35(3–4):S1–85
- † Hypertriglyceridemia—acute pancreatitis—ischemic heart disease. A case study in a pair of monozygotic twins. Lithell H, et al. *Acta Med Scand* 1987;221(3):311–6
- † Dicephalus tribrachius: prenatal diagnosis and management. Jirous J, et al. *Acta Obstet Gynecol Scand* 1987;66(1):79–81
- Necrotizing enterocolitis: higher risk in firstborn twin? [letter] Stine MJ. *Am J Dis Child* 1987 May;141(5):480
- † Biparietal diameter growth in uncomplicated twin gestation. Shah YG, et al. *Am J Perinatol* 1987 Jul;4(3):229–32
- Anesthetic challenges in separation of craniopagus twins. Georges LS, et al. *Anesth Analg* 1987 Aug;66(8):783–7
- † Advanced necrotizing enterocolitis: an indication for emergency separation of omphalopagus conjoined twins. Saing H, et al. *Aust Paediatr J* 1987 Apr;23(2):129–30
- † Microscopic study of midline determinants in janiceps twins. Sperber GH, et al. *Birth Defects* 1987;23(1):243–75
- Twins as monsters: Albertus Magnus's theory of the generation of twins and its philosophical context. Thijssen JM. *Bull Hist Med* 1987 Summer;61(2):237–46
- Obstructive azoospermia and chronic sinobronchial disease (Young's syndrome) in identical twins. Teichtahl H, et al. *Fertil Steril* 1987 May;47(5):879–81
- † Heritability of clinical chemistries in an older twin cohort: the NHLBI Twin Study. Kalousdian S, et al. *Genet Epidemiol* 1987;4(1):1–11
- † Characteristic pattern of Doppler umbilical arterial velocity waveform in conjoint twins. Woo JS, et al. *Gynecol Obstet Invest* 1987; 23(1):70–2
- Siamese twins: killing one to save the other. Annas GJ. *Hastings Cent Rep* 1987 Apr;17(2):27–9
- † Is the response of plasma glucose and insulin to short-term exercise—training genetically determined? Tremblay A, et al. *Horm Metab Res* 1987 Feb;19(2):65–7
- Pygopagus twins. Chatterjee SK, et al. *Indian Pediatr* 1985 Aug;22(8):601–6
- † MR imaging of Pelizaeus–Merzbacher disease. Penner MW, et al. *J Comput Assist Tomogr* 1987 Jul–Aug;11(4):591–3
- † Sonographic findings in the prenatal diagnosis of cephalothoracopagus syncephalus. A case report. Brenbridge AN, et al. *J Reprod Med* 1987 Jan;32(1):59–62
- Prenatal sonographic appearance of diprosopus. Strauss S, et al. *J Ultrasound Med* 1987 Feb; 6(2):93–5
- † Simple ectopia of the kidney in monozygotic twins. Fanizza–Orphanos A, et al. *J Urol* 1987 Apr;137(4):706
- Prenatal ultrasound diagnosis of thoracopagus conjoined twins. Kalchbrenner M, et al. *JCU* 1987 Jan;15(1):59–63
- Griseofulvin teratology [letter] Météneki J, et al. *Lancet* 1987 May 2;1(8540):1042
- † Increased monozygotic twinning rate after ovulation induction [published erratum appears in *Lancet* 1987 Jul 18;2(8551):170] Derom C, et al. *Lancet* 1987 May 30;1(8544):1236–8
- A case of sirenomelia. In one of a pair of identical twins, and in association with exomphalos. Oğuz A, et al. *Turk J Pediatr* 1986 Jul–Sep; 28(3):205–10
- † indicates that an abstract appears with the citation in the author section.

AUTHOR SECTION

A

- Abramovici H** see **Atad J**
- Adeloye A**: The syndrome of osteopetrosis in siblings: its occurrence in two sisters in Nigeria. *Childs Nerv Syst* 1987;3(2):128-31
- Familial osteopetrosis encountered in siblings has clinical and radiological features which appear to constitute a distinct entity. The syndrome is illustrated by osteopetrosis encountered in two sisters in Nigeria and by other reports of the disease in siblings in the literature.
- Alanko A** see **Kaprio J**
- (Albertus Magnus), Thijssen JM**: Twins as monsters: Albertus Magnus's theory of the generation of twins and its philosophical context. *Bull Hist Med* 1987 Summer;61(2):237-46
- Alda M, Dvořáková M, Posmurová M, Balíková M, Zvolský P, Filip V**: Pharmacogenetic study with diazepam in twins. *Neuropsychobiology* 1987; 17(1-2):4-8
- In a study with healthy volunteers (6 monozygotic and 4 dizygotic twin pairs) we followed up diazepam serum levels and psychotropic effects of diazepam after single-dose administration. We found that pharmacokinetic properties of diazepam as well as its influence on memory and performance are probably not under genetic control. On the other hand, genetic factors seem to contribute to effects of diazepam on affectivity.
- Allen RJ** see **Penner MW**
- Andrews G**: Twin study [letter]
Aust NZ J Psychiatry 1986 Dec;20(4):502
- Annas GJ**: Siamese twins: killing one to save the other. *Hastings Cent Rep* 1987 Apr;17(2):27-9
- Asuni OH** see **Marinho AO**
- Atad J, Lissak A, Rofe A, Abramovici H**: Patent ductus arteriosus after prolonged treatment with indomethacin during pregnancy: case report. *Int J Gynaecol Obstet* 1987 Feb;25(1):73-6
- Indomethacin was administered to suppress premature uterine contractions in a twin pregnancy from the 27th until the 32nd week of pregnancy. Patent ductus arteriosus was diagnosed after delivery in one twin and persisted patent for a period of 4 weeks. A hypothesis of the constrictive influence of prostaglandin synthetase inhibitors on the fetal ductus arteriosus during intrauterine and neonatal periods is suggested.*

B

- Baldy R** see **Reveley MA**
- Balíková M** see **Alda M**
- Banerjee AR** see **Chatterjee SK**
- Barlow GK** see **Smith TW**
- Basu S** see **Chatterjee SK**
- Ben Ami T** see **Strauss S**
- Bendon RW** see **Fanizza-Orphanos A**
- Berg G** see **Luxenberg JS**
- Berg K** see **Tambs K**
- Bertolini R** see **Källén B**
- Bird AG** see **MacLeod RI**
- Bird J** see **Cowie VA**
- Blickstein I, Shoham-Schwartz Z, Lancet M, Borenstein R**: Characterization of the growth-discordant twin. *Obstet Gynecol* 1987 Jul; 70(1):11-5
- A computer-assisted analysis of perinatal variables was undertaken in order to characterize the growth-discordant twin. We studied 124 twin pairs grouped at four degrees of discordancy: over 5, 10, 15, and 20% birth weight difference, using the larger twin as 100%. Twins with birth weight discrepancy below these figures were considered concordant. Highly discordant second twins showed significantly lower birth weight, gestational age, and Apgar scores, and prolonged neonatal hospitalization, as compared with discordant first twins. Complex presentations and a higher cesarean section rate characterize discordant first and concordant twins. It is suggested that a 15% birth weight discordancy be used as the safety limit for birth weight disparity. We also recommend special attention when discordancy seems to increase, especially if the discordant is the second twin.
- Bogle A** see **Rose RJ**
- Bomben G** see **Stassen HH**
- Borchert MS, Sadun AA, Sommers JD, Wright KW**: Congenital ocular motor apraxia in twins. Findings with magnetic resonance imaging. *J Clin Neuro Ophthalmol* 1987 Jun;7(2):104-7
- A pair of identical twins, whose features met Cogan's classic description of congenital ocular motor apraxia, were examined. Each had an absence of willed horizontal saccades and demonstrated classic head thrusting. Magnetic resonance imaging revealed hypoplasia of the corpus callosum. Fourth ventricle enlargement and generalized cerebral hypoplasia were also present but were more pronounced in the sibling with the more delayed motor development. The significance of these findings is discussed in light of our understanding of the control mechanism of volitional eye movements.
- Borenstein R** see **Blickstein I**
- Bouchard C** see **Poehlman ET**
- Bouchard C** see **Tremblay A**
- Brenbridge AN, Kraft JL, Teja K**: Sonographic findings in the prenatal diagnosis of cephalothoracopagus syncephalus. A case report. *J Reprod Med* 1987 Jan;32(1):59-62
- The ultrasonic intrauterine diagnosis of cephalothoracopagus, a form of conjoined twinning, can be made when a monochorionic monoamniotic gestation contains a single head and torso accompanied by eight limbs. This is the second reported case of the syncephalus variety of cephalothoracopagus twins associated with clomiphene citrate use; however, the association is believed to be coincidental rather than causative.
- Brown T, Townsend GC, Richards LC, Travan GR**: A study of dentofacial morphology in South Australian twins. *Aust Dent J* 1987 Apr;32(2):81-90
- Brown T** see **Townsend GC**
- Bulla M, von Lillien T, Goecke H, Roth B, Ortmann M, Heising J**: Renal and cerebral necrosis in survivor after in utero death of co-twin. *Arch Gynecol* 1987; 240(2):119-24
- A newborn with bilateral renal cortical necrosis and severe cerebral damage in association with a macerated stillborn twin is reported. The alterations in the kidneys and brain of the twin born alive suggest that the primary event took place before birth. Thromboplastic material and embolizing particles derived from the dead fetus may have passed the monoamniotic-monochorionic twin placenta and caused disseminated intravascular coagulation in the living twin, followed by infarction in other organ systems.
- Burgess VB** see **Townsend GC**
- Burke P, Hughes C**: Growth study including stereophotogrammetry of a pair of monozygotic twins, one having a cleft lip and palate. *Br J Orthod* 1987 Apr;14(2):73-84

AUTHOR SECTION

This report is a serial growth study of a pair of monozygotic twin boys, one of whom suffered from a bilateral cleft of the lip and a unilateral cleft of the palate. Annual records for height and weight were registered from seven years eight months to 18 years 0 months. Soft tissue facial growth was also measured annually using short base stereophotogrammetry (Burke, 1967). Growth and development of the dentition was recorded as orthodontic study models at less frequent intervals. Measurements derived from the facial maps allowed not only measurement of soft tissue growth changes in the face, but also of surgical change to both lips related to an Abbe flap procedure carried out for the cleft twin. All changes are compared with those occurring in his monozygotic twin.

Burke P, Hughes C: The effect of congenital cardiac disease on facial growth in a monozygotic twin pair, studied by stereophotogrammetry. *Eur J Orthod* 1987 May;9(2):97-103

Burns T see **Polich J**

Byrd JR see **Reindollar RH**

Byrne JM, Camfield PR, Clark-Touesnard M, Hondas BJ: Effects of phenobarbital on early intellectual and behavioral development: a concordant twin case study. *J Clin Exp Neuropsychol* 1987 Aug;9(4):393-8

A Monozygotic twin pair had febrile seizures, only one was treated with phenobarbital from 17-30 months of age. Standard intellectual and behavioral assessments were conducted during Treatment (30 months of age), and Post-Treatment (32, 41, 48, 66 months of age). Both twins showed normal global intelligence at all assessments, however, the phenobarbital twin scored lower at all assessments. Differences in specific abilities were also seen during Post-Treatment. When phenobarbital was withdrawn, the treated twin's behavior showed immediate improvement. This experience suggests that early phenobarbital treatment may affect global intelligence through the preschool period, but that the effect is not severe. Phenobarbital also may adversely affect behavior, although the effect disappears with termination of the drug.

C

Camfield PR see **Byrne JM**

Campbell DM see **Watson P**

Carey V see **Muñoz A**

Carlson LA see **Lithell H**

Carpenter S see **Pena SD**

Carton A, Rees RT: Mirror image dental anomalies in identical twins. *Br Dent J* 1987 Mar 7;162(5):193-4

Castilla E see **Källén B**

Cathcart MK see **Dustoor MM**

Chatterjee SK, Chaudhuri M, Sarangi BK, Kundu G, Sen B, Banerjee AR, Basu S, Sarkar N: Pygopus twins. *Indian Pediatr* 1985 Aug;22(8):601-6

Chaudhuri M see **Chatterjee SK**

Christian J see **Kaloudian S**

Chutkow JG, Hyser CL, Edwards JA, Heffner RR Jr, Czorny JJ: Monozygotic female twin carriers discordant for the clinical manifestations of Duchenne muscular dystrophy. *Neurology* 1987 Jul; 37(7):1147-51

We studied twin sisters, in their sixth decade, who were obligate carriers of Duchenne dystrophy. One had a slowly progressing limb-girdle myopathy since her mid-20s. The other sister showed no evidence of neuromuscular disease by history or on physical examination but had high serum CK values and degeneration and regeneration of fibers in a muscle

biopsy. Otherwise, they were phenotypically identical, karyotypically normal females with cytogenetically normal X-chromosomes. Based on red cell and HLA loci antigen determinations, there was a 99.2% probability that they were monozygotic. The mutant gene segregating in the family is probably linked to the Xp21 DNA marker pERT87.

Clapp M see **Rowe DC**

Clark-Touesnard M see **Byrne JM**

Cowie VA, Singh KR, Wheatler R, Bird J: The fragile-X syndrome in twin sisters. *J Ment Defic Res* 1987 Mar;31 (Pt 1):81-5

Two mentally handicapped dizygotic twin sisters were found to possess the Fragile-X lesion. They showed different levels of cognitive deficit. The hypothesis that the level of cognitive function in female carriers of the Fragile-X lesion may be influenced by Lyonization is discussed. The mother of the twins was schizophrenic. Although she was an obligate carrier her psychosis was thought not to be causally connected with the Fragile-X status.

Czeizel A see **Källén B**

Czeizel A see **Métneki J**

Czorny JJ see **Chutkow JG**

D

de Kretser DM see **Teichtahl H**

Derom C, Vlietinck R, Derom R, Van den Berghe H, Thiery M: Increased monozygotic twinning rate after ovulation induction [published erratum appears in *Lancet* 1987 Jul 18;2(8551):170] *Lancet* 1987 May 30;1(8544):1236-8

Multiple births after artificial induction of ovulation (AIO) are usually considered to be due to fertilisation of multiple ova. In the East Flanders Prospective Twin Study between 1978 and 1985 the frequency of zygotic splitting after AIO (1.2%) was significantly higher than the expected frequency (0.45%) among spontaneous twins and triplets. Moreover, after AIO the frequency of zygotic division was significantly higher in triplets than in twins. AIO seems to be the first identified biological mechanism influencing the monozygotic twinning rate.

Derom R see **Derom C**

Dincsoy MY, Kim YM, Ponce E, Williams H, Naroji SK: Intracranial hemorrhage in low-birth-weight twins during neonatal period. *Am J Perinatol* 1987 Jul;4(3):220-4

Since twins have a higher incidence of premature birth, fetal distress, asphyxia and other pre- and intrapartum high-risk factors, it is reasonable to expect that they may be vulnerable to intracranial hemorrhage. Forty-seven pairs of low-birth-weight twins were studied during the newborn period by serial cranial ultrasound. The comparisons of groups, based on birth order, relative size of the neonates, and the mode of delivery, showed no significant differences in the incidence of intracranial hemorrhage between first and second twins, smaller and larger twins, or vaginal and cesarean delivery. However, the comparison based on the presentation of the infant revealed a significantly higher number of intracranial hemorrhages within the first week of life in the breech group than in the cephalic presentation group. The adverse effect of breech presentation on intracranial hemorrhage did not appear to be mediated by the well recognized risk factors such as lower gestational age, lower Apgar scores, and higher incidence of respiratory distress

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syndrome and assisted ventilation. Since most of the twins with ICH had breech presentation and were delivered by cesarean section, this mode of delivery does not seem to protect the twins with breech presentation from intracranial hemorrhage.

Donnelly RJ see **Rashid A**

Dupuis MJ, Pierre P, Gonsette RE: Transient global amnesia and migraine in twin sisters [letter]

J Neurol Neurosurg Psychiatry 1987 Jun;50(6):816-7

Dustoor MM, McInerney MM, Mazanec DJ, Cathcart MK: Abnormal lymphocyte function in scleroderma: a study on identical twins.

Clin Immunol Immunopathol 1987 Jul;44(1):20-30

This paper describes immunologic studies on a set of identical twins discordant for the presence of scleroderma. The affected twin had a low absolute T-cell count, low numbers of T4 helper/inducer cells, and an increase in the T8 suppressor/cytotoxic cell count. The T cells of the patient responded poorly to mitogens and to allogeneic and autologous stimuli. By contrast, T-cell-helper activity for pokeweed mitogen-induced IgM synthesis was markedly enhanced in the patient. Furthermore, activated mononuclear cell supernatants from the patient markedly enhanced the synthesis of collagen by normal cultured fibroblasts. The unaffected twin by contrast displayed normal responses in these assays. The results suggest that the immunologic defects in scleroderma are not entirely genetically determined.

Dvořáková M see **Alda M**

E

Eaves LJ see **Kendler KS**

Eberl S see **Pocock NA**

Edwards JA see **Chutkow JG**

Egorova MS: Genetic factors in interpersonal variance of field dependence-independence indicators.

Act Nerv Super (Praha) 1987 Mar;29(1):19-22

Eisman JA see **Pocock NA**

Engelberg S see **Strauss S**

Eskola J, Takala A, Käyhty H, Leinonen M, Kilpi T, Peltola H, Mäkelä PH: Secondary cases of invasive disease caused by spread of *Haemophilus influenzae* type b. *J Infect* 1987 May;14(3):233-6

Three 6-year-old girls were admitted to hospital within a period of 9 days because of invasive disease caused by *Haemophilus influenzae* type b (Hib). Two days after the index case contracted bacterial meningitis, her twin sister developed septicemia.

Nine days after onset of illness in the index case, a day-care contact developed a febrile illness. The antibiograms of the bacterial strains isolated from cerebrospinal fluid or blood in the first two cases were identical; in the third case, blood cultures were negative but Hib antigen could be detected in serum and in urine. These cases illustrate the contagiousness of Hib disease. All household contacts of a case should be informed about the risk and their protection with rifampicin considered.

F

Fabsitz R see **Kaloussian S**

Fanizza-Orphanos A, Bendon RW: Simple ectopia of the kidney in monozygotic twins. *J Urol* 1987 Apr;137(4):706

We report a case of simple ectopia of the kidney in monozygotic twins. The hypothesis of a genetic mechanism for renal dysmorphogenesis could be tested by banking autopsy tissue and analyzing the

messenger ribonucleic acid.

Farmer AE, McGuffin P, Gottesman II: Twin concordance for DSM-III schizophrenia. Scrutinizing the validity of the definition.

Arch Gen Psychiatry 1987 Jul;44(7):634-41

DSM-III diagnoses were applied to 26 monozygotic (MZ) and 34 dizygotic (DZ) probands and their co-twins from the Maudsley Hospital (1948 to 1965) schizophrenic series of Gottesman and Shields.

DSM-III criteria for schizophrenia were found to be highly reliable and valid, and to have a broad heritability of 0.85, which is comparable with the Research Diagnostic Criteria and Feighner criteria from which they were derived. When the full range of DSM-III diagnoses were considered, both affective disorder and schizophrenia were found in genetically identical individuals. The effect of DSM-III nosology on the twin series was also explored by adding other diagnoses to that of schizophrenia and observing the effect on the MZ/DZ concordance ratio. The addition of affective disorder with mood-incongruent delusions to the schizophrenia spectrum produced the largest increase in the ratio and, by implication, a 'more genetic' combination than schizophrenia alone. The maximum MZ/DZ concordance ratio (7.68) was produced by schizophrenia, plus affective disorder with mood-incongruent delusions, plus schizotypal personality disorder, plus atypical psychosis. The effect of adding paranoid disorder (paranoia) and all other affective categories was a reduction in the ratio.

Filip V see **Alda M**

Ford MH see **Smith TW**

Fraser FC see **Pena SD**

Fredman G see **Stevenson J**

Friedman GD see **Selby JV**

G

Geagan MB see **Rowland DM**

Gebarski SS see **Penner MW**

Georges LS, Smith KW, Wong KC: Anesthetic challenges in separation of craniopagus twins.

Anesth Analg 1987 Aug;66(8):783-7

Godden DJ, Sandhu PS, Kerr F: Stenosed bicuspid aortic valves in twins. *Eur Heart J* 1987 Mar;8(3):316-8

Hereditary factors may have a part to play in the development of bicuspid aortic valve. This report concerns a pair of identical twins, probably monozygotic, who required aortic valve replacement as a result of aortic stenosis occurring in bicuspid aortic valves. This supports the contention that there may be a genetic influence in the development of bicuspid aortic valve, though environmental factors may be of greater importance.

Goecke H see **Bulla M**

Gökalp A see **Oğuz A**

Gonsette RE see **Dupuis MJ**

Goodman RM see **Strauss S**

Gottesman II see **Farmer AE**

Grady C see **Luxenberg JS**

Graham D see **Shah YG**

Graham P see **Stevenson J**

Gray P see **Heaton DA**

Grunnet N see **Schultz Larsen F**

Gültekin A see **Oğuz A**

Gurling HM, Murray RM: Genetic influence, brain morphology, and cognitive deficits in alcoholic twins. *Prog Clin Biol Res* 1987;241:71-82

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H

- Hahn DH see Reindollar RH
Hales CN see Heaton DA
Halfar MM: Collaborative management of twins. Two case studies. *J Nurse Midwifery* 1987 May-Jun; 32(3):140-8
Hanus S see Jirous J
Haseltine FP see Reindollar RH
Havlik R see Kalousdian S
Haxby JV see Luxenberg JS
Hayakawa K, Shimizu T, Ohba Y, Tomioka S: Lifestyle factors affecting intrapair differences of serum apoproteins and cholesterol concentrations in adult identical twins. *Atherosclerosis* 1987 Jul;66(1-2):1-9
83 pairs of twins, aged 50-74 years, were studied with respect to their serum apoproteins (A-I, A-II, B, C-II, C-III and E) and cholesterol concentrations. Each of the variables showed a higher intraclass correlation in the MZ twins than in the DZ twins. HDL cholesterol showed the highest intraclass correlation among the variables and indicated strong heritability. In the MZ pairs discordant for alcohol consumption, the higher consumers within the pair showed a significantly higher level of apo A-I and HDL cholesterol, and a lower level of apo B concentration. In the MZ pairs discordant for cigarette smoking, the higher consumers within the pair showed a significantly lower level of apo C-III. In the MZ pairs discordant for obesity, the heavier twins within the pair showed higher levels of non-HDL cholesterol, total cholesterol, apo B, apo C-II and apo C-III. In the MZ pairs discordant, for occupation, the twins of 'heavy work' showed significantly higher levels of apo B, total cholesterol and non-HDL cholesterol than the twins of 'light work'.
Heath A see Kendler KS
Heath AC see Kendler ST
Heaton DA, Millward BA, Gray P, Tun Y, Hales CN, Pyke DA, Leslie RD: Evidence of beta cell dysfunction which does not lead to diabetes: a study of identical twins of insulin dependent diabetics. *Br Med J [Clin Res]* 1987 Jan 17; 294(6565):145-6
Ten non-diabetic identical twins of insulin dependent diabetics were studied to see whether they showed changes in insulin secretion. The twins were selected because more than 11 years had elapsed since the diagnosis of the diabetic twin and they were therefore unlikely to develop diabetes, and they had had islet cell antibodies. Despite similar glucose concentrations to the controls the twins had greater total immunoreactive insulin responses to both oral (mean 3280 (SD 699) versus 2338 (1110) pmol/dl at 180 minutes; p less than 0.05) and intravenous (1346 (690) versus 699 (294) pmol/dl at 30 minutes; p less than 0.05) glucose challenge. The C peptide responses to intravenous glucose were also increased consistent with increased insulin secretion. In addition, basal serum proinsulin concentrations in the twins were increased (2.1 (1.2) versus 1.0 (0.3) pmol/dl; p less than 0.01) and remained so throughout both tests. These twins, who were unlikely to develop insulin dependent diabetes, showed evidence of beta cell dysfunction which does not progress to diabetes.
Heffner RR Jr see Chutkow JG
Heising J see Bulla M
Hines FB 3d see Miller WB
Hoffmann WF: Identical twins' nonidentical responses to lithium [letter] *Am J Psychiatry* 1987 Sep;

144(9):1240-1

- Hondas BJ see Byrne JM
Hopper JL see Pocock NA
Hughes C see Burke P
Hunt SC see Smith TW
Hyser CL see Chutkow JG

I

- Ilesanmi AO see Marinho AO
Insler MS see Rosenthal WN

J

- Jeffreys AJ see Motomura K
Jirous J, Radocha K, Hanus S, Podholová M, Mergancová J: Diciphalus tribrachius: prenatal diagnosis and management. *Acta Obstet Gynecol Scand* 1987;66(1):79-81
A case of conjoined twins diagnosed prenatally by ultrasound is presented. The pathologist's report, the ultrasonographic differential diagnosis, management of delivery and a summary of the literature are included.
Johnson JL see Teichtahl H

K

- Al-Kadhimi A see Rashid A
Kalchbrenner M, Weiner S, Templeton J, Losure TA: Prenatal ultrasound diagnosis of thoracopagus conjoined twins. *JCU* 1987 Jan;15(1):59-63
Källén B, Bertolini R, Castilla E, Czeizel A, Knudsen LB, Martinez-Frias ML, Mastroiacovo P, Mutchnick O: A joint international study on the epidemiology of hypospadias. *Acta Paediatr Scand [Suppl]* 1986;324:1-52
A descriptive epidemiological study of hypospadias has been made utilizing data from seven malformation surveillance systems round the world: Denmark, Hungary, Italy, Mexico, South America, Spain, and Sweden. The joint material represents 8,122 boys with hypospadias, 7,419 of which were 'isolated', that is, with no other known malformation except those obviously related to hypospadias (undescended testis, hydrocele, scrotum anomalies). The main study was based on the infants with isolated hypospadias, but an analysis of multimalformed infants with hypospadias was also made. The registered birth prevalence of isolated hypospadias varied much among the seven programs. For the years 1980-1981, the lowest recorded birth prevalence was 0.26 (Mexico) and the highest, 2.11 (Hungary). An analysis of ascertainment was made for three programs: Denmark, Hungary, and Sweden. While some incorrect registration of infants as hypospadiac were detected, a strong underascertainment of varying degree was seen. In Hungary and Sweden, where the highest birth prevalences were recorded, there was a 30-40% underascertainment of cases later operated on; in Denmark underascertainment was still larger. When correction was made for underascertainment, the Danish and Swedish birth prevalences of isolated hypospadias were very similar. No information on ascertainment was available for the other systems, but it seems very unlikely that the low birth prevalences recorded in Mexico and South America can be solely explained by underascertainment. Therefore, it appears that true differences in the prevalence at birth of

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hypospadias do exist. There are no indications that the different birth prevalences depend on inclusion or exclusion of mild (distal) forms of hypospadias. There is an apparent inverse correlation between fertility in a population (estimated from mean parity in control women) and the birth prevalence of isolated hypospadias. Within each program geographical variations in birth prevalence could be seen, but the interprogram variation was larger than the intraprogram one. There is an effect of maternal age and parity on the intensity ratio of isolated hypospadias. This effect varies among programs. The variability for mothers under 20, parity 1, seems to be inversely related to the proportion of delivered women belonging to that age class. With increasing maternal age, especially within parity 1, an increased hypospadias intensity ratio is seen. Infants with isolated hypospadias show a lower birth weight and to some extent also a shorter gestational length than do controls. (ABSTRACT TRUNCATED AT 400 WORDS)

Källén B: Congenital malformations in twins: a population study.

Acta Genet Med Gemellol (Roma) 1986; 35(3-4):167-78

Malformations in twins were studied with the use of a Medical Birth Registry covering nearly all births in Sweden, 1973-1981. A total of 15,427 infants marked twins were identified and the malformation diagnoses were analyzed, comparing rates with the overall rates in the same data source. Problems in ascertainment and interpretation are discussed. No excess of neural tube defects was seen, but hydrocephaly was diagnosed more often in twins than in singletons. This can be partly, but not completely, explained by a higher rate of low-weight infants among twins. An excess was noticed in twins in the rates of cardiac defects, spine defects, gut atresias—notably esophageal and anal atresia—and severe kidney malformations. These are components of the so-called VACTERL syndrome—the last component (limb reductions) being more common in twins than in singletons, though statistical significance was not reached. A relation between monozygotic twinning and this syndrome is tentatively suggested.

Kalousdian S, Fabsitz R, Havlik R, Christian J, Rosenman R: Heritability of clinical chemistries in an older twin cohort: the NHLBI Twin Study.

Genet Epidemiol 1987;4(1):1-11

Heritability analyses were performed with clinical chemistry data collected on 360 twin pairs of white, middle-aged male veterans during the second examination of the NHLBI Twin Study, a multicenter study of cardiovascular disease risk factors. Significant genetic variability was present for albumin, alkaline phosphatase, blood urea nitrogen, 1-hr postload glucose, phosphorus, total protein, and uric acid. Calcium and aspartate aminotransferase had significantly different means by zygosity, which precluded further analysis. Total bilirubin and lactate dehydrogenase did not show evidence for genetic variation at this examination. Comparisons are made to results from similar twin studies and the first examination of the NHLBI Twin Study. Heritability estimates for phosphorus and blood urea nitrogen exhibited marked stability across studies, while heritability estimates for total bilirubin, total protein, and uric acid decreased in older study populations. The heritability of 1-hr postload blood glucose decreased from 0.88 at the first NHLBI examination to 0.52 at the second one. Interpretation of these results requires consideration of possible

selection biases, methodologic and demographic issues, and the view that for some clinical chemistries, biological aging along with prolonged environmental exposures may alter the amount of phenotypic variation explained by the additive effect of genes alone.

Kaprio J, Alanko A, Kivisaari L,

Standertskjöld-Nordenstam CG: Mammographic patterns in twin pairs discordant for breast cancer. *Br J Radiol* 1987 May;60(713):459-62

As part of a case-control study of breast cancer in pairs of twins selected from the population-based Finnish Twin Cohort, mammograms of 30 pairs (seven monozygotic (MZ), 23 dizygotic (DZ)) discordant for breast cancer were analysed. The mammographic pattern in the unaffected breast of the cancer case was compared with the pattern in the ipsilateral breast of the healthy twin (control). There were no differences for MZ pairs, while among DZ pairs the cancer case had a prominent parenchymal pattern significantly more often than the control, as assessed by two radiologists independently and blindly. Thus, there is a relationship between parenchymal pattern and risk of breast cancer even when the controls are the twin sisters of breast-cancer cases and are themselves at high risk. The overall similarity, despite disease discordance, in parenchymal pattern of the twins (more evident among MZ than DZ pairs) suggests a familial, possibly genetic influence on parenchymal pattern.

Kaprio J, Koskenvuo M, Langinvainio H, Romanov K, Sarna S, Rose RJ: Genetic influences on use and abuse of alcohol: a study of 5638 adult Finnish twin brothers. *Alcoholism (NY)* 1987 Aug;11(4):349-56

To evaluate genetic influences on the use and abuse of alcohol, we compared questionnaire measures of the frequency, quantity, and density of social drinking, and the frequency of alcohol-induced passouts self-reported by 879 monozygotic (MZ) and 1940 dizygotic (DZ) pairs of twin brothers, aged 24-49 yr. The measures of frequency, quantity, and density (heavy drinking once or more a month) significantly intercorrelate, and the self-reported alcohol consumption by this sample is satisfactorily stable and consistent with nationwide sales figures. None of the drinking measures was associated with twin type (zygosity), and only density correlated with age. Similarity of drinking habits among twin brothers was evaluated as a function of their genetic resemblance and age, the frequency of their social contact with one another, and the interactions of these terms. The effects were estimated from hierarchical linear regressions of a double-entry data matrix from which each twin's drinking was predicted from that of his twin brother, and that pair's age, zygosity, cohabitation status, and frequency of social contact. Significant genetic variance was found for each of the drinking measures with heritability estimates ranging from 0.36 to 0.40. Co-twins in more frequent social contact with one another reported greater similarity in their use of alcohol, but heritable variance remained after the effects of age and social contact were removed from both mean levels and co-twin resemblance.

Reported frequency of passouts yielded significant, but equivalent, correlations in both MZ and DZ twins and no evidence of genetic influence.

Karpati G see **Pena SD**

Käyhty H see **Eskola J**

Kendler KS, Heath AC, Martin NG, Eaves LJ: Symptoms of anxiety and symptoms of depression. Same genes, different environments?

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Arch Gen Psychiatry 1987 May;44(5):451-7

While traditional multivariate statistical methods can describe patterns of psychiatric symptoms, they cannot provide insight into why certain symptoms tend to co-occur in a population. However, this can be achieved using recently developed methods of multivariate genetic analysis. Examining self-report symptoms in a clinically unselected twin sample (3798 pairs), traditional factor analysis indicates that symptoms of depression and anxiety tend to form separate symptom clusters. Multivariate genetic analysis shows that genes act largely in a nonspecific way to influence the overall level of psychiatric symptoms. No evidence could be found for genes that specifically affect symptoms of depression without also strongly influencing symptoms of anxiety. By contrast, the environment seems to have specific effects, ie, certain features of the environment strongly influence symptoms of anxiety while having little impact on symptoms of depression. These results, which are replicated across sexes, suggest that the separable anxiety and depression symptom clusters in the general population are largely the result of environmental factors.

Kendler KS, Heath A, Martin NG: A genetic epidemiologic study of self-report suspiciousness.

Compr Psychiatry 1987 May-Jun;28(3):187-96

Kerr F see **Godden DJ**

Kilpi T see **Eskola J**

Kim YM see **Dincsoy MY**

King MC see **Selby JV**

Kivisaari L see **Kaprio J**

Kaudsen LB see **Källén B**

Koskenvuo M see **Kaprio J**

Kraft JL see **Brenbridge AN**

Kundu G see **Chatterjee SK**

Kuruville S see **Roenigk HH Jr**

L

Ladele OA see **Marinho AO**

Lancet M see **Blickstein I**

Langinvainio H see **Kaprio J**

Lau JT see **Saing H**

Leinonen M see **Eskola J**

Leslie RD see **Heaton DA**

Li KC see **Penner MW**

Liang ST see **Woo JS**

Lissak A see **Atad J**

Lithell H, Vessby B, Walldius G, Carlson LA:

Hypertriglyceridemia—acute pancreatitis—ischemic heart disease. A case study in a pair of monozygotic twins. *Acta Med Scand* 1987;221(3):311-6

Hyperlipoproteinemia type V, with serum triglyceride concentrations of about 20 mmol/l, was detected in a pair of monozygotic, 40-year-old twin brothers. One of them had had recurrent attacks of pancreatitis, the other not. The endocrine and exocrine pancreatic functions were apparently normal, supporting that the pancreatitis was secondary to the hypertriglyceridemia. After successful lipid-lowering therapy the attacks of abdominal pain disappeared and remained absent during a 13-year follow-up period. The other twin died of ischemic heart disease nine years after the discovery of his lipid abnormality. The reduction of his lipid levels had been much less successful. His average 'atherogenic index' (the ratio of cholesterol in low density to that in high density lipoproteins) was normal but increased to a very high value if cholesterol in very low density lipoproteins was also

included together with the low density ones in the numerator. Lipoprotein particles modified in composition may have contributed to an increased uptake through a scavenger pathway and promoted atherosclerosis.

Lo R see **Woo JS**

Losure TA see **Kalchbrenner M**

Lundström A, McWilliam JS: A comparison of vertical and horizontal cephalometric variables with regard to heritability. *Eur J Orthod* 1987 May;9(2):104-8

Luxenberg JS, May C, Haxby JV, Grady C, Moore A, Berg G, White BJ, Robinette D, Rapoport SI: Cerebral metabolism, anatomy, and cognition in monozygotic twins discordant for dementia of the Alzheimer type. *J Neurol Neurosurg Psychiatry* 1987 Mar;50(3):333-40

One pair of monozygotic twins discordant for dementia of the Alzheimer type (DAT) was studied using neuropsychological testing, quantitative x-ray computed tomography (QCT) and magnetic resonance imaging (MRI) of the brain. Cerebral glucose metabolism was measured using positron emission tomography (PET) and 2-[18-F]fluoro-2-deoxy-D-glucose (FDG). The affected twin had a seven year history of progressive cognitive impairment and was severely demented. Neuropsychological testing of the affected twin demonstrated marked deficits in all areas of cognitive function. The asymptomatic twin showed some impairment on tests of perceptual organisation and delayed recall. The affected twin had loss of gray matter and ventricular enlargement on QCT and MRI compared with healthy controls (p less than 0.05). He also had frontal and parietal lobe hypometabolism and increased asymmetry of metabolism on PET compared to both his twin and healthy age-matched controls (p less than 0.05). PET, QCT, and MRI distinguished changes in the twin with DAT compared with his brother and healthy controls. Although the subtle neuropsychological abnormalities of the asymptomatic twin may be signs of early DAT, they were not accompanied by any changes in regional cerebral metabolism or brain structure.

Lyons TL see **Thompson SA**

M

McDonough PG see **Reindollar RH**

McGuffin P see **Farmer AE**

Machin GA see **Sperber GH**

McInerney MM see **Dustoor MM**

McLendon WJ see **Miller WB**

MacLeod RI, Bird AG: Chronic mucocutaneous candidosis in monozygotic twins.

J Oral Maxillofac Surg 1987 Jul;45(7):616-8

McLoughlin V see **Stevenson J**

McWilliam JS see **Lundström A**

Magalhães Ramalho P see **Salazar de Sousa J**

Magnus P see **Tambs K**

Mäkelä PH see **Eskola J**

Makowski EL see **Thompson SA**

Marcotte M see **Poehlman ET**

Marinho AO, Ilesanmi AO, Ladele OA, Asuni OH, Omigbodun A, Oyejide CO: A fall in the rate of multiple births in Ibadan and Igbo Ora, Nigeria. *Acta Genet Med Gemellol (Roma)* 1986; 35(3-4):201-4

The twinning, triplet and quadruplet rates were found to be 23.8, 0.3 and 0.04 per thousand maternities, respectively in a survey of 71,773 maternities carried out in Ibadan and Igbo Ora,

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- Nigeria. This represents a dramatic fall from the rates found in previous studies. The findings are discussed in the light of changing dietary habits.
- Markovic M:** Concordance-discordance rate in twins unilateral clefts. *Zahn Mund Kieferheilkd* 1987; 75(2):143-7
- Martin NG:** Genetic differences in drinking habits, alcohol metabolism and sensitivity in unselected samples of twins. *Prog Clin Biol Res* 1987; 241:109-19
- Martin NG** see **Kendler KS**
- Martinez-Frias ML** see **Källén B**
- Mastroiacovo P** see **Källén B**
- May C** see **Luxenberg JS**
- Mazanec DJ** see **Dustoor MM**
- Mergancová J** see **Jirous J**
- Métneki J, Czeizel A:** Griseofulvin teratology [letter] *Lancet* 1987 May 2;1(8540):1042
- Miki T** see **Motomura K**
- Miller WB, McLendon WJ, Hines FB 3d:** Two treatment approaches for missing or peg-shaped maxillary lateral incisors: a case study on identical twins. *Am J Orthod Dentofacial Orthop* 1987 Sep; 92(3):249-56
- Patients with missing or malformed maxillary lateral incisors can be successfully treated by either replacing or restoring the lateral incisor, or by positioning and reshaping the canine to simulate the lateral incisor. Identical twins were treated, one by restoring 'peg laterals' to normal contours and the other by repositioning and recontouring the canines to simulate missing lateral incisors. Results of treatment would tend to indicate that considerations other than changes in facial esthetics should determine the treatment of choice.
- Millman L** see **Rozin P**
- Millward BA** see **Heaton DA**
- Monteiro MV** see **Salazar de Sousa J**
- Montplaisir J, Poirier G:** Narcolepsy in monozygotic twins. *Neurology* 1987 Jun;37(6):1089
- Moore A** see **Luxenberg JS**
- Mori T** see **Motomura K**
- Motomura K, Tateishi H, Nishisho I, Okazaki M, Miki T, Tonomura A, Takai S, Mori T, Jeffreys AJ:** The zygosity determination of Japanese twins using a minisatellite core probe. *Jinrui Idengaku Zasshi* 1987 Mar;32(1):9-14
- Muñoz A, Rosner B, Carey V:** Regression analysis in the presence of heterogeneous intraclass correlations. *Biometrics* 1986 Sep;42(3):653-8
- In the statistical analysis of twinship and familial data, one often encounters the need for regression methods that control for the possibly different aggregation of the twins and the members of the families according to their type (e.g., monozygotic, dizygotic for twinship data). We present the maximum likelihood solution for the regression analysis of data in the presence of heterogeneous intraclass correlations. This work extends previous results for the case of a homogeneous intraclass correlation. An application of the methods for the analysis of twinship data is included.
- Murray RM** see **Gurling HM**
- Mutchinick O** see **Källén B**
- N**
- Nadeau A** see **Tremblay A**
- Nagoshi CT, Wilson JR:** Influence of family alcoholism history on alcohol metabolism, sensitivity, and tolerance. *Alcoholism (NY)* 1987 Aug;11(4):392-8
- As part of the Colorado Alcohol Research on Twins and Adoptees (CARTA), 35 subjects who reported having an alcoholic parent or sibling [family alcoholism history positive (FHP)] were matched with 35 controls [family alcoholism history negative (FHN)]. All subjects were tested three times on a battery of physiological, motor, and cognitive performance tasks before the ingestion of alcohol, then were tested three more times over a 3-hr period during which their blood alcohol concentration (BAC) was brought up to and maintained at about 0.10 g/dl by an initial large dose of ethanol and subsequent topping doses. FHP subjects scored significantly lower than FHN subjects on the Raven's Progressive Matrices and on some of the cognitive tasks before alcohol ingestion. FHP and FHN subjects, however, did not significantly differ in absorption and clearance of alcohol or in sensitivity and acute tolerance scores calculated on the repeated measures. Contrary to expectations, FHP subjects perceived themselves as being more impaired by alcohol than FHN subjects, and there was little evidence to suggest that they were less sensitive to variations in BAC.
- Naroji SK** see **Dincsoy MY**
- Newman B** see **Selby JV**
- Nik-Hussein NN, Salcedo AH:** Double teeth with hypodontia in identical twins. *ASDC J Dent Child* 1987 May-Jun;54(3):179-81
- There is now considerable evidence to support the theory that heredity is the origin of this anomaly. The condition in one of the twins described here was the mirror image of the condition of the other.
- Nishisho I** see **Motomura K**
- O**
- Oğuz A, Gökulp A, Gültekin A, Orsal M:** A case of sirenómelia. In one of a pair of identical twins, and in association with exomphalos. *Turk J Pediatr* 1986 Jul-Sep;28(3):205-10
- Ohba Y** see **Hayakawa K**
- Ohel G** see **Sadovsky E**
- Okazaki M** see **Motomura K**
- Omigbodun A** see **Marinho AO**
- Orsal M** see **Oğuz A**
- Ortmann M** see **Bulla M**
- Oyejide CO** see **Marinho AO**
- P**
- Park CL, Streicher H, Rothberg R:** Transmission of human immunodeficiency virus from parents to only one dizygotic twin. *J Clin Microbiol* 1987 Jun; 25(6):1119-21
- The acquired immunodeficiency syndrome-related complex was identified in a mother and one of her nonidentical twins. Generalized lymphadenopathy was first noted in the infant at age 17 months, and that of the mother was incidentally discovered 6 months later. The father, who had had homosexual contacts before the conception of the twins, appeared to be in good health. No one in the family had constitutional symptoms or showed signs of opportunistic infection. Both parents and the patient had hypergammaglobulinemia, low T-helper-to-suppressor-cell ratio, and positive serum antibody to human immunodeficiency virus. Attempts to isolate the virus from all family members were unsuccessful. The twin brother was in good health with a normal immunologic profile and negative antibody to human immunodeficiency virus.
- Paul DA** see **Rowland DM**

AUTHOR SECTION

Peltola H see **Eskola J**

Pena SD, Karpatti G, Carpenter S, Fraser FC: The clinical consequences of X-chromosome inactivation: Duchenne muscular dystrophy in one of monozygotic twins. *J Neurol Sci* 1987 Jul; 79(3):337-44

We have ascertained retrospectively a female patient, one of identical twins, who was diagnosed at age 23 years as having Duchenne muscular dystrophy (DMD). A muscle biopsy at that time showed a pattern in which large areas of destroyed muscle fibers replaced with adipose tissue were interspersed with normal-appearing muscle fascicles. The visualization of Barr bodies in the muscle biopsy, plus the patient's normal menstrual history served to rule out Turner's syndrome. The clinical expression of DMD in only one of monozygotic twins is strongly suggestive of uneven lyonization, with an excess of paternally derived X-chromosomes being inactivated in the patient. This view is supported by the appearance of the muscle biopsy. Twinning may conceivably predispose to uneven lyonization by reducing the size of the muscle cell anlage at the time of X-chromosome inactivation. Alternatively, lyonization may occur before the splitting of the embryonic mass, and by chance, the two embryonic centers could end up with a significantly different proportion of active maternal and paternal X-chromosomes.

Penner MW, Li KC, Gebarski SS, Allen RJ: MR imaging of Pelizaeus-Merzbacher disease. *J Comput Assist Tomogr* 1987 Jul-Aug;11(4):591-3

Pelizaeus-Merzbacher disease (PMD) is a rare, slowly progressive, sex-linked demyelinating disorder generally classified with the sudanophilic leukodystrophies. The onset is most often in the pediatric age group and may be diagnosed as cerebral palsy because of the subtle onset. Cranial magnetic resonance (MR) imaging of two patients with PMD showed reversal of the normal gray/white matter signal relationships, consistent with dysmyelination, as well as low intensity lentiform nuclei and thalami possibly suggesting pathologic iron deposition. Magnetic resonance also better demonstrated low volume brain without the beam hardening limitations of X-ray CT. Although our MR findings correlate well with the pathophysiology of PMD, the MR characteristics are not specific. The diagnosis of PMD remains one of clinical and laboratory exclusion.

Pérusse L see **Poehlman E**

Pérusse L see **Tremblay A**

Pfeiffer RA: New syndrome: mixed hearing loss, mental deficiency, growth retardation, short clubbed digits, and EEG abnormalities in monozygotic female twins. *Am J Med Genet* 1987 Jul;27(3):639-44

Pierre P see **Dupuis MJ**

Pinkerton SK see **Townsend GC**

Pocock NA, Eisman JA, Hopper JL, Yeates MG, Sambrook PN, Eberl S: Genetic determinants of bone mass in adults. A twin study. *J Clin Invest* 1987 Sep; 80(3):706-10

The relative importance of genetic factors in determining bone mass in different parts of the skeleton is poorly understood. Lumbar spine and proximal femur bone mineral density and forearm bone mineral content were measured by photon absorptiometry in 38 monozygotic and 27 dizygotic twin pairs. Bone mineral density was significantly more highly correlated in monozygotic than in dizygotic twins for the spine and proximal femur and in the forearm of premenopausal twin pairs, which is consistent with significant genetic

contributions to bone mass at all these sites. The lesser genetic contribution to proximal femur and distal forearm bone mass compared with the spine suggests that environmental factors are of greater importance in the aetiology of osteopenia of the hip and wrist. This is the first demonstration of a genetic contribution to bone mass of the spine and proximal femur in adults and confirms similar findings of the forearm. Furthermore, bivariate analysis suggested that a single gene or set of genes determines bone mass at all sites.

Podholová M see **Jirous J**

Poehlman E see **Tremblay A**

Poehlman ET, Tremblay A, Marcotte M, Pérusse L, Thériault G, Bouchard C: Heredity and changes in body composition and adipose tissue metabolism after short-term exercise-training. *Eur J Appl Physiol* 1987;56(4):398-402

The purpose of the experiment was to investigate the genotype dependency of body composition and adipose tissue metabolism following short-term exercise-training. Six pairs of male, sedentary monozygotic twins took part in a 22 day ergocycle training program at 58% VO₂max, with a mean exercise duration of 116 min x day⁻¹. Body weight, fat mass, percent body fat and VO₂max, were evaluated before and after the training program. From a suprailliac region fat biopsy, the following adipose tissue metabolic variables were evaluated: fat cell diameter, basal and epinephrine stimulated lipolysis, basal and insulin stimulated lipogenesis from glucose and heparin releasable lipoprotein lipase activity. The exercise-training program increased (p less than 0.01) VO₂max and decreased (p less than 0.01) body weight, fat mass and percent body fat. Variation in response within twin pairs was not significantly different than response between pairs in the aforementioned variables. However, a significant within pair resemblance (p less than 0.01) for changes in fat free mass was observed. Adipose tissue metabolic indicators exhibited a large interindividual variation in response to exercise-training. Significant within twin pair resemblance was observed only for basal lipogenesis. Moreover, the non significant within twin pair resemblance for changes in body fat and adipose tissue metabolic indicators suggests that heredity is not a major factor influencing changes in body fat and adipose tissue indicators to short-term training resulting in negative energy balance. Changes in fat free mass were, however, closely coupled to the genotype.

Poirier G see **Montplaisir J**

Polich J, Burns T: P300 from identical twins.

Neuropsychologia 1987;25(1B):299-304

The P300 component was obtained from ten pairs of identical twins and matched control subjects with an auditory discrimination task. The event-related brain potentials (ERPs) from the identical twins were strikingly similar in amplitude and latency compared to control subject pairs. The data suggest that individual variations in ERP waveform morphology are determined by the structure of the neurophysiological mechanisms responsible for P300 generation.

Ponce E see **Dincsoy MY**

Posmurová M see **Alda M**

Propping P see **Stassen HH**

Pyke DA see **Heaton DA**

AUTHOR SECTION

R

- Radocha K** see **Jirous J**
- Ramos de Almeida JM** see **Salazar de Sousa J**
- Rampton DS, Stott RB:** Crohn's disease in monozygotic twins. *Postgrad Med J* 1986 Nov; 62(733):1047-9
A pair of monozygotic twins with Crohn's disease is described. Both have ileocaecal disease and suffered their first symptoms after living apart for 6 years. The pathogenic role of hereditary and environmental factors is discussed in the light of this and previous reports of twins with Crohn's disease.
- Rapoport SI** see **Luxenberg JS**
- Rashid A, Sendi A, Al-Kadhimi A, Donnelly RJ:** Concurrent spontaneous pneumothorax in identical twins. *Thorax* 1986 Dec;41(12):971
- Reed T** see **Rose RJ**
- Rees RT** see **Carton A**
- Reindollar RH, Byrd JR, Hahn DH, Haseltine FP, McDonough PG:** A cytogenetic and endocrinologic study of a set of monozygotic isokaryotic 45,X/46,XY twins discordant for phenotypic sex: mosaicism versus chimerism. *Fertil Steril* 1987 Apr; 47(4):626-33
Newborn monozygotic twins with phenotypic sexual discordance were diagnosed with 45,X/46,XY gonadal dysgenesis. Cytogenetic studies of peripheral blood (serial), skin, and gonad were performed. Serial comparative gonadotropin data and luteinizing hormone-releasing hormone stimulation tests were obtained. A phenotypically normal male twin was found to have a significant number of 45,X cells only in lymphocytes and was considered endocrinologically intact. The sexually ambiguous twin sister demonstrated a significant number of 45,X cell lines in all tissues and was considered endocrinologically agonalad. These data demonstrate the role of the 45,X karyotype on abnormal gonadal formation and function and make possible different etiologies for the 45,X cell line in both twins. While mosaicism is likely for both, chimerism is possible for the normal male.
- Render TD** see **Shah YG**
- Reveley AM** see **Reveley MA**
- Reveley MA, Reveley AM, Baldy R:** Left cerebral hemisphere hypodensity in discordant schizophrenic twins. A controlled study. *Arch Gen Psychiatry* 1987 Jul;44(7):625-32
Eleven identical (monozygotic) twin pairs discordant for schizophrenia and 18 unselected control monozygotic twin pairs received a computed tomographic scan. Brain absorption density was determined on quadrants at five slice levels using a fully automatic program that eliminated cerebrospinal fluid spaces from analysis. There was no difference in brain density among schizophrenics, co-twins, and controls. There was a significant difference in right vs left hemisphere asymmetry of density across diagnostic groups. Overall, the left hemisphere was less dense than the right in the schizophrenics, while the reverse was found for the co-twins and controls. These results support the hypothesis of left hemisphere dysfunction in schizophrenia and suggest that it is an environmentally acquired, rather than genetic trait.
- Richards LC** see **Brown T**
- Richards LC** see **Townsend GC**
- Robbins JH:** Parkinson's disease, twins, and the DNA-damage hypothesis [letter] *Ann Neurol* 1987 Apr;21(4):412
- Robinette D** see **Luxenberg JS**

- Roenigk HH Jr, Kuruvilla S:** Topical minoxidil for male pattern alopecia in two sets of twins. *Cutis* 1987 Apr;39(4):329
Topical application of minoxidil has been reported to be effective in the treatment of androgenic alopecia. The treatment of two sets of identical twins is reported. One twin of each pair was treated with 3 percent topical minoxidil. The second twin was not treated for one year in one case and for five months in the other. The treated twin in each pair had more hair after treatment with minoxidil.
- Rofe A** see **Atad J**
- Rogers JR** see **Townsend GC**
- Romanov K** see **Kaprio J**
- Roopnarinesingh S:** Combined vaginal-abdominal delivery of twins. *West Indian Med J* 1987 Mar; 36(1):17-8
- Rose RJ, Reed T, Bogle A:** Asymmetry of a-b ridge count and behavioral discordance of monozygotic twins. *Behav Genet* 1987 Mar;17(2):125-40
- Rose RJ** see **Kaprio J**
- Rosenman R** see **Kalousdian S**
- Rosenthal WN, Insler MS:** Vernal keratoconjunctivitis: new corneal findings in fraternal twins. *Cornea* 1984-85;3(4):288-90
A case of vernal keratoconjunctivitis is presented with a similar clinical presentation and disease type identified in each of two fraternal twins. The unique findings of superior stromal infiltrates and corneal marginal thinning are discussed.
- Rosner B** see **Muñoz A**
- Roth B** see **Bulla M**
- Rothberg R** see **Park CL**
- Rowe DC, Clapp M, Wallis J:** Physical attractiveness and the personality resemblance of identical twins. *Behav Genet* 1987 Mar;17(2):191-201
- Rowland DM, Geagan MB, Paul DA:** Sonographic demonstration of combined quadruplet gestation, with viable ectopic and concomitant intrauterine triplet pregnancies. *J Ultrasound Med* 1987 Feb; 6(2):89-91
- Roy A:** Genetics of suicide. *Ann NY Acad Sci* 1986; 487:97-105
- Rozin P, Millman L:** Family environment, not heredity, accounts for family resemblances in food preferences and attitudes: a twin study. *Appetite* 1987 Apr;8(2):125-34
Monozygotic and same-sex dizygotic twin pairs reported on their food preferences, the variety of foods of the same general category (e.g. types of soup) in their diet, and their concern about contact of their food with disgusting or other unacceptable substances (contamination sensitivity). Although there was substantial resemblance between siblings for many of these items, there was no clear evidence for a heritable component on any item. The only case for which there was an interpretable and significantly greater resemblance among monozygotic than among dizygotic twins (out of 23 questions) was preferred degree of hotness resulting from chili pepper in foods. These results confirm the prediction that in omnivorous animals, such as humans, genetic predispositions will be minimal with respect to food. The modest sibling resemblances on a number of measures are primarily attributable to a shared environment.

S

- Sadovsky E, Ohel G, Simon A:** Ultrasonographical evaluation of the incidence of simultaneous and independent movements in twin fetuses.

AUTHOR SECTION

Gynecol Obstet Invest 1987;23(1):5-9

Fetal movements (FM) may be spontaneous, originating in the fetus itself, or evoked by external stimuli. The relative rate of spontaneous and evoked FM has not yet been documented. As it is impossible to differentiate in a singleton pregnancy between these types of movements - the natural model of twin pregnancy was used. The FM of 10 normal twin pregnancies between 33 and 39 weeks of gestation were studied by two realtime ultrasounds, and were operated by two ultrasonographers over a period of 10 min. The mean number of independent FM of each fetus which occurred while the other fetus was resting was 7.9 FM and 7.7 FM, respectively (average 7.8 FM). A mean of 2.5 FM occurred simultaneously. The rate of independent FM was 75.7% and that of simultaneous FM was 24.3%. Vibroacoustic stimulation applied to the maternal abdomen evoked simultaneous movements of both fetuses in all cases. It is suggested that the independent FM may represent spontaneous FM and that the simultaneous FM may indicate the presence of an external stimuli and are therefore evoked responses.

Sadun AA see Borchert MS

Saing H, Tam PK, Lau JT, Wong J: Advanced necrotizing enterocolitis: an indication for emergency separation of omphalopagus conjoined twins. Aust Paediatr J 1987 Apr;23(2):129-30
Emergency separation was considered the treatment of choice when one omphalopagus twin developed advanced necrotizing enterocolitis (NEC). Twin B who developed advanced NEC died postoperatively but Twin A recovered satisfactorily.

Salazar de Sousa J, Ramos de Almeida JM, Monteiro MV, Magalhães Ramalho P: Late onset coeliac disease in the monozygotic twin of a coeliac child. Acta Paediatr Scand 1987 Jan;76(1):172-4

A case of late onset coeliac disease (confirmed by serial intestinal biopsies) is described in the monozygotic twin of a coeliac patient. This is the second case reported in literature. The permanent discordance for coeliac disease in monozygotic twins is questioned.

Salcedo AH see Nik-Hussein NN

Sambrook PN see Pocock NA

Sandhu PS see Godden DJ

Sarangi BK see Chatterjee SK

Sarkar N see Chatterjee SK

Sarna S see Kaprio J

Schultz Larsen F, Grunnet N: Genetic investigations in atopic dermatitis. Tissue Antigens 1987 Jan; 29(1):1-6

In a population based study of 68 individuals with atopic dermatitis and 94 control individuals it was not possible to demonstrate any significant associations between the disease and gene frequencies of HLA-ABC, ABO, MN, Rhesus, Kell, Duffy, Hp, Gc, Gm, Km/Inv, PGM, AcP, GPT, EsD, GLO, AK, PGD, ADA, and GALT/Gt.

Selby JV, Newman B, King MC, Friedman GD: Environmental and behavioral determinants of fasting plasma glucose in women. A matched co-twin analysis. Am J Epidemiol 1987 Jun; 125(6):979-88

Comparing results of an unmatched analysis in a sample of unrelated persons created by randomly selecting one twin from each pair with results of a matched monozygotic co-twin analysis provides a means of distinguishing environmental influences from genetic influences on a dependent variable of interest. Determinants of the fasting plasma glucose level were investigated in a large sample of adult

female nondiabetic twins from the Kaiser Permanente Twin Registry. In the subsample of unrelated persons, fasting plasma glucose was significantly and positively associated with age, body mass index, uric acid level, and alcohol intake and was significantly inversely related to leisure time physical activity. When monozygotic twins were treated as matched pairs, only the effects of body mass index and alcohol consumption remained significant, whereas the association with leisure time physical activity was greatly reduced and no longer statistically significant. These results suggest that behavioral and therefore alterable aspects of obesity and alcohol consumption influence the fasting plasma glucose level; alcohol consumption may be a risk factor for non-insulin-dependent diabetes mellitus; and common underlying genetic factor(s) may be responsible for the negative association between physical activity and fasting plasma glucose.

Sen B see Chatterjee SK

Sendi A see Rashid A

Shah YG, Graham D, Stinson SK, Render TD: Biparietal diameter growth in uncomplicated twin gestation. Am J Perinatol 1987 Jul;4(3):229-32

Ninety-six fetuses of uncomplicated concordant twin pregnancies were monitored by ultrasonic cephalometry from 13 to 38 weeks gestation. The biparietal diameter (BPD) growth of 96 twin fetuses was then compared to a sample of 299 uncomplicated, appropriate-for-gestational-age singleton pregnancies. Regression analysis applied to these measurements of BPD on twin and singleton pregnancies showed no significant difference in biparietal diameter between uncomplicated singleton and twin pregnancies. It is concluded that charts derived from singleton pregnancies may be reliably used for estimation of gestational age of twins.

Shimizu T see Hayakawa K

Shoham-Schwartz Z see Blickstein I

Simon A see Sadovsky E

Singh KR see Cowie VA

Smith KW see Georges LS

Smith TW, Turner CW, Ford MH, Hunt SC, Barlow GK, Stults BM, Williams RR: Blood pressure reactivity in adult male twins. Health Psychol 1987; 6(3):209-20

The purpose of the present investigation was to examine possible genetic contributions to cardiovascular reactivity by contrasting patterns of association in 82 monozygotic (MZ) and 88 dizygotic (DZ) adult male twin pairs (age range = 21 to 61 years, M = 35 years). Systolic blood pressure (SBP), diastolic blood pressure (DBP), and heart rate (HR) were recorded during baseline and during a mental arithmetic task (i.e., serial subtraction). The task produced significant elevations in all three cardiovascular measures (i.e., 10 mmHg SBP, 8 mmHg DBP, and 6 bpm HR, respectively). Levels of SBP and DBP reactivity were significantly correlated in MZ pairs but not in DZ pairs. Statistical tests suggest a heritability estimate of about 50% that was marginally significantly for SBP and DBP changes during the task. There was no indication of a genetic influence on HR reactivity. Resting level and static task period measures of SBP, DBP, and HR demonstrated statistically significant heritability estimates of 60% to 80%.

Sommers JD see Borchert MS

Southwick GJ see Teichtahl H

Sperber GH, Machin GA: Microscopic study of midline determinants in janiceps twins. Birth Defects 1987; 23(1):243-75

The earliest hitherto recorded developmental stage

AUTHOR SECTION

- of human cephalothoracopagus (janiceps) twins, at 8 weeks of conceptional age, is described macroscopically and microscopically. The nearly perfect dissymmetrical configuration of the 2 faces was compared with previously reported cases, and horizontal sectioning of the entire conceptus allowed detailed histologic description of the internal orientation of most organs and systems. The concept of conflicting facial and vertebral axes was explored to account for shared cerebral, facial, pharyngeal, and esophageal structures, and for aplasia of the pituitary and thymus glands and of the teeth. Critical points of changing axial orientation were identified at the mesencephalon, the Rathke pouch and third branchial arch, and with the hepato-cardio-respiratory complex split between the 2 axes. The caudal components conformed with previously reported cases.
- Standertskjöld-Nordenstam CG** see **Kaprio J**
- Stassen HH, Bomben G, Propping P:** Genetic aspects of the EEG: an investigation into the within-pair similarity of monozygotic and dizygotic twins with a new method of analysis. *Electroencephalogr Clin Neurophysiol* 1987 Jun; 66(6):489-501
- A considerable number of previous studies emphasized the importance of genetic factors in the spontaneous EEG. In this context MZ twins were found to resemble their co-twins as much as they resemble themselves over time, whereas investigations into the within-pair similarity of DZ twins yielded very inconsistent findings. To test these conclusions, we re-analysed the EEGs of an earlier twin study (24 MZ pairs/25 DZ pairs) by means of a new method of analysis. In our study, MZ twins proved to be less like one another than each person is to himself over time. However, this result might be because the EEG data were not optimal for the applied method of analysis, but the existence of true within-pair differences cannot be excluded. Contrary to earlier findings in the literature, the analysis of the EEG of DZ twins showed that, for a sufficiently representative sample, the within-pair similarity is significantly above the inter-individual similarity between unrelated persons.
- Stevenson J, Graham P, Fredman G, McLoughlin V:** A twin study of genetic influences on reading and spelling ability and disability. *J Child Psychol Psychiatry* 1987 Mar;28(2):229-47
- The reading skills of 285 pairs of 13-year-old twins drawn from the general population were studied. The twins were independently tested using standardized measures of intelligence, reading and spelling ability. The genetic contribution to reading ability was assessed by examination of correlations in monozygotic (MZ) and same-sex dizygotic (DZ) twins, and by analysing differences between MZ and DZ twins in concordance of reading disability rates. The results suggested that, at this age, genetic factors play only a moderate role in general reading backwardness or specific reading retardation. However, when spelling ability was investigated, a heritability of 0.53 was obtained, increasing to 0.75 when intelligence was controlled. Strong genetic influences on spelling were also found when concordance rates for spelling disability were compared for MZ and DZ pairs.
- Stine MJ:** Necrotizing enterocolitis: higher risk in firstborn twin? [letter] *Am J Dis Child* 1987 May; 141(5):480
- Stinson SK** see **Shah YG**
- Stott RB** see **Rampton DS**
- Strauss S, Tamarkin M, Engelberg S, Ben Ami T, Goodman RM:** Prenatal sonographic appearance of diprosopus. *J Ultrasound Med* 1987 Feb;6(2):93-5
- Streicher H** see **Park CL**
- Stults BM** see **Smith TW**

T

- Takai S** see **Motomura K**
- Takala A** see **Eskola J**
- Tam PK** see **Saing H**
- Tamarkin M** see **Strauss S**
- Tambo K, Magnus P, Berg K:** Left-handedness in twin families: support of an environmental hypothesis. *Percept Mot Skills* 1987 Feb;64(1):155-70
- Information on handedness, assessed as writing-hand, was collected from 197 MZ twin pairs and 203 DZ twin pairs and from their parents, spouses, and children. Associations for pairs of relatives were studied by 2 X 2 tables, computing chi squared-values and tetrachoric correlations. Correlations of about .3 were obtained for mother-offspring and sibling pairs, while for cousins the correlation was .25 (in a small sample). No other significant associations were found, not even for twins. These results suggest only a small, if any, genetic effect, and only a small environmental between family effect, most of which seems to be a maternal effect. The lack of cotwin correlations and correlations for one of the twins with her/his ordinary brothers/sisters suggest the existence of an effect specific to twins, since the correlation for pairs of ordinary siblings is significant. Conclusions drawn from twin studies alone may be biased. The frequency of left-hand writers has increased from 1% to 10% in the different age groups born during the last century in Norway. This age effect is present mainly in hand writing and not so much in handedness generally, suggesting a decrease in cultural repression against left-hand writing.
- Tateishi H** see **Motomura K**
- Teichtahl H, Temple-Smith PD, Johnson JL, Southwick GJ, de Kretser DM:** Obstructive azoospermia and chronic sinobronchial disease (Young's syndrome) in identical twins. *Fertil Steril* 1987 May; 47(5):879-81
- Teja K** see **Brenbridge AN**
- Temple-Smith PD** see **Teichtahl H**
- Templeton J** see **Kalchbrenner M**
- Thériault G** see **Poehlman ET**
- Thiery M** see **Derom C**
- Thijssen JM:** Twins as monsters: Albertus Magnus's theory of the generation of twins and its philosophical context. *Bull Hist Med* 1987 Summer; 61(2):237-46
- Thompson SA, Lyons TL, Makowski EL:** Outcomes of twin gestations at the University of Colorado Health Sciences Center, 1973-1983. *J Reprod Med* 1987 May;32(5):328-39
- A retrospective study was undertaken of 341 twin pregnancies over a ten-year period at the University of Colorado Health Sciences Center. The perinatal morbidity and mortality were higher than for singleton gestations, but no difference was found between the first and second twins. Bed rest was effective in prolonging gestation and decreasing perinatal mortality (P less than .05). Delivery of the second twin in noncephalic presentation was accomplished vaginally in 46.5%, with external version successful in five of six attempts. The interval between the birth of each twin did not affect outcome.

AUTHOR SECTION

Tomioka S see Hayakawa K

Tonomura A see Motomura K

Townsend GC, Brown T, Richards LC, Rogers JR, Pinkerton SK, Travan GR, Burgess VB: Metric analyses of the teeth and faces of South Australian twins. *Acta Genet Med Gemellol (Roma)* 1986; 35(3-4):179-92

Procedures are described for the acquisition and analysis of data in a study of the dental and facial characteristics of South Australian twins.

Comparisons of the mesiodistal diameters of maxillary incisors in MZ and DZ twins revealed heterogeneity of total variances and evidence of inequality of mean values for some dimensions between MZ and DZ twins. Previous estimates of heritabilities for tooth size, relying on classical assumptions in twin research, may be exaggerated.

A preliminary analysis of facial shape was undertaken using a procedure for shape matching based on a least squares fit of homologous coordinates. There was evidence of mirror-imaging in some MZ twin pairs and differences in facial asymmetry between male and female DZ twins. Future extensions of the study using methods for three-dimensional shape analysis are described.

Townsend GC see Brown T

Travan GR see Brown T

Travan GR see Townsend GC

Tremblay A, Poehlman E, Nadeau A, Pérusse L, Bouchard C: Is the response of plasma glucose and insulin to short-term exercise-training genetically determined? *Horm Metab Res* 1987 Feb;19(2):65-7

Six male monozygotic (MZ) twin pairs participated in the present study which was undertaken to assess the contribution of heredity to changes in plasma glucose and insulin in response to exercise-training. This group was submitted to a vigorous ergocycle exercise program inducing a surplus in energy expenditure of 1000 kcal/day over habitual energy expenditure during 22 consecutive days. An oral glucose tolerance test (OGTT, 75 g glucose) was performed before and about 16 hours after the experimental period. Fasting plasma glucose as well as its increase over basal level (delta area) during OGTT were not modified by exercise-training (p greater than 0.05), although a marked reduction in insulin was observed, both in the fasting state and during the OGTT (p less than 0.01). To assess the extent to which heredity influenced the response to the treatment, i.e. the genotype-training interaction, within and between MZ twin pairs means of squares were calculated. A significant intrapair resemblance in the response to exercise-training was observed for fasting insulin and delta insulin area/delta glucose area ratio during OGTT, but not for delta insulin area. These results provide some indications about a possible role of the genotype on the sensitivity to reduce plasma insulin in response to exercise-training. However, this hypothesis needs to be substantiated by other experimental data with control over the genotype of subjects.

Tremblay A see Poehlman ET

Tun Y see Heaton DA

Turner CW see Smith TW

V

Van den Berghe H see Derom C

Vessby B see Lithell H

Vlietinck R see Derom C

von Lilien T see Bulla M

W

Walldius G see Lithell H

Wallis J see Rowe DC

Watson P, Campbell DM: Preterm deliveries in twin pregnancies in Oxford.

Acta Genet Med Gemellol (Roma) 1986; 35(3-4):193-9

The incidence of preterm delivery among twin maternities in Oxford between 1973 and 1983, was 39.4%. Preterm delivery was more common in MZ than DZ twins, and this was associated with higher incidence of spontaneous rupture of the membranes associated with monozygosity.

Weiner S see Kalchbrenner M

Wheater R see Cowie VA

White BJ see Luxenberg JS

Williams H see Dincsoy MY

Williams RR see Smith TW

Wilson JR see Nagoshi CT

Wong J see Saing H

Wong KC see Georges LS

Woo JS, Liang ST, Lo R: Characteristic pattern of Doppler umbilical arterial velocity waveform in conjoint twins. *Gynecol Obstet Invest* 1987; 23(1):70-2

Doppler blood flow studies in a pair of conjoint twins at 18 weeks gestation revealed a characteristic 'double layer' spectral velocity waveform from the umbilical arteries. This is the result of signals originating from 2 separate arterial supplies adjacent to each other in a single umbilical cord. Such a characteristic feature provides an additional sonographic sign in the diagnosis of conjoint twins.

Wright KW see Borchert MS

Y

Yeates MG see Pocock NA

Z

Zvolský P see Alda M