

CLINICAL HEMORHEOLOGY, Vol. 8, pp. 807-814, 1988
0271-5198/88 \$3.00 + .00 Printed in the USA.
Copyright (c) 1988 Pergamon Press plc. All rights reserved.

CLINICAL HEMORHEOLOGY - LITERATURE SURVEY

Editor: E. Ernst

The key words were chosen for this section by the Editor. The English titles, given in brackets, are usually the translations by the authors. The asterisk (*) indicates the name of the author to whom requests for reprints should be addressed.

The statement "No address available" indicates, that it did not appear on the computer printout consulted by the Editor.

The Readers of our Journal are encouraged to send information regarding their own publications in journals other than CLINICAL HEMORHEOLOGY and BIORHEOLOGY to E. Ernst (address see cover) and, if possible, reprints as well.

ALEKSANDROVA, N.P., PETUKHOV, E.B. and RIABOVA, S.S. Reologiya krovi i mikrotsirkulatsiya v dinamike ostrogo pankreatita v eksperimente (Blood rheology and microcirculation in the dynamics of acute experimental pancreatitis). **Biull. Eksp. Biol. Med.** 105: 106-108, 1988.

Key words: blood viscosity, microcirculation, pancreatitis, acute disease (English abstract)

No address available.

BÄUMLER, H.*, SCHUERER, B. and DISTLER, J. Rouleau formation of erythrocytes is influenced by thrombocytes. **Folia Haematol.** 114: 478-479, 1987.

Key words: platelet aggregation, arterial occlusive diseases, erythrocyte aggregation, erythrocyte deformability

Address for reprints: Dept. of Hemorheology and Hemodynamics, Humboldt University, Berlin, GDR.

BAGDADE, J.D.* and SUBBIAH, P.V. Influence of low estrogen-containing oral contraceptives on lipoprotein phospholipid composition and mononuclear cell membrane fluidity. **J. Clin. Endocrinol. Metab.** 66: 857-861, 1988.

Key words: oral contraceptives, mononuclear leukocytes, lipoproteins, membrane fluidity

Address for reprints: Department of Medicine, Rush-Presbyterian-St. Luke's Medical Center, Chicago, Illinois 60612, USA.

BARON, J.F., VICAUT, E., DURUBLE, M., DUVELLEROY, M. and CORIAT, P. Economie de produits sanguins: interet de l'hémodilution normovolemique (Economics of blood products: the value of normovolemic hemodilution). *Rev. Prat.* 38: 402-408, 1988.

Key words: blood substitutes, hemodilution, blood viscosity, vascular resistance (English abstract)

No address available.

BAXTER, K., WISEMAN, S., POWELL, J.* and GRENNHALGH, R. Pilot study of a screening test for peripheral arterial disease in middle aged men: fibrinogen as a possible risk factor. *Cardiovasc. Res.* 22: 300-302, 1988.

Key words: peripheral arterial disease, fibrinogen, exercise test

Address for reprints: Department of Surgery, Charing Cross & Westminster Medical School, Fulham Palace Road, London W6 8RF, U.K.

BONO, A.*, CAIMI, G., CATANIA, A., SARNO, A. and PANDOLFO, L. Red cell peroxide metabolism in diabetes mellitus. *Horm. Metabol. Res.* 19: 264-266, 1987.

Key words: red blood cell, oxidant agents, peroxide, metabolism, diabetes mellitus

Address for reprints: Univ. degli Studi di Palermo, Istituto di Clinica Medica e Malattie Cardio vascolari, Cattedra di Chimica Biologica II, Palermo, Italy.

BRYZIEWSKA, M.* and SZOSLAND, K. Association between the glycation of erythrocyte membrane proteins and membrane fluidity. *Clin. Biochem.* 21: 49-51, 1988.

Key words: erythrocyte membrane, glucose, membrane fluidity

Address for reprints: Department of Biophysics, University of Lodz, Poland.

CAIMI, G.*, GALLUZZO, A., ROMANO, A., CATANIA, A., CAPOBIANCO, D. and SARNO, A. Behaviour of the haemorheological determinants and metabolic parameters during biostator monitoring. *Rev. Port. Hemorreol.* 1: 19-24, 1987.

Key words: diabetes mellitus, biostator

Address for reprints: Univ. degli Studi di Palermo, Istituto di Clinica Medica e Malattie Cardiovascolari, Insegnamento di Fisiopatologia del Ricambio, Via del vespro 129, 90127 Palermo, Italy.

CAIMI, G.*, CAPOBIANCO, D. and SARNO, A. Haemorheological evaluation with the filtrometer MF4 in a group of diabetics. *Microcir. Endoth. Lymphatics* 3: 241-247, 1987.

Key words: filtration, diabetes, cardiovascular risk factors

Address for reprints: as above.

CHABANEL, A.*, SCHACHTER, D. and CHIEN, S. Increased rigidity of red blood cell membrane in young spontaneously hypertensive rats. *Hypertension* 10: 603-607, 1987.

Key words: erythrocyte deformability, hypertension, animal

Address for reprints: Dept. of Physiology and Cellular Biophysics, College of Physicians and Surgeons, Columbia University, New York NY 10032, USA.

CHIEN, S.*, SUNG, K.L., SCHMID-SCHÖNBEIN, G.W., SKALAK, R., SCHMALZER, E.A. and USAMI, S. Rheology of leukocytes. *Ann. N. Y. Acad. Sci.* 516: 333-347, 1987.

Key words: leukocytes, elasticity, rheology, viscosity, microcirculation

Address for reprints: Department of Physiology, Columbia University, New York, NY 10032, USA.

CHYZY, R.*, LUKJAN, H., ROSC, D., BIELAWIEC, M. and SAWICKA, J. Some haemorheological factors in patients with arteriosclerosis obliterans after treatment of Trental. **Folia Haematol.** 114: 549-554, 1987.

Key words: arteriosclerosis obliterans, erythrocyte deformability, pentoxifylline, fibrinolysis

Address for reprints: Dept. of Basic Medical Care, Medical School Bialystok, Poland.

CIUFFETTI, G.*, MERCURI, M., PALAZZETTI, D. and LOMBARDINI, R. Leukocyte rheology in recent stroke (letter). **Stroke** 19: 122-123, 1988.

Key words: cerebrovascular disorders, leukocytes, rheology, microcirculation

Address for reprints: 2nd Clin. Medica, University of Perugia, Italy.

COLIN, F.*, MENEZ, J.F., MESKAR, A., MOAN, M., LE ROUX, A.M. and VICARIOT, M. Effet de la carbamylation "in vitro" des erythrocytes sur leurs proprietes rheologiques (Effect of in vitro carbamylation of erythrocytes on their rheological properties). **Ann. Biol. Clin.** 45: 509-514, 1987.

Key words: erythrocyte deformability, hemoglobin, in vitro, (English abstract)

Address for reprints: Unite d'Hemorheologie, Laboratoire d'Hematologie, CHR A. Morvan, Brest, France.

DIAMANTOPOULOS, E.J.*, RAPTIS, S.A. and MOULOPOULOS, S.D. Red blood cell deformability index in diabetic retinopathy. **Horm. Metab. Res.** 19: 569-573, 1987.

Key words: diabetic retinopathy, erythrocyte deformability, complications

Address for reprints: Second Department of Internal Medicine-Propaedeutic, "Evangelismos" Hospital, Athens, Greece.

DONG, C.*, SKALAK, R., SUNG, K.L., SCHMID-SCHÖNBEIN, H. and CHIEN, S. Passive deformation analysis of human leukocytes. **J. Biomech. Eng.** 110: 27-36, 1988.

Key words: model, membrane fluidity, stress

Address for reprints: Department of Civil Engineering and Engineering Mechanics, Columbia University, New York, NY 10027, USA.

EGGERT, W., BLEIBER, R., WOLF, S., and SCHMIDT, G. Phospholipide und Filtrabilität von Erythrozyten bei Kindern mit gestörter Leberfunktion (Phospholipids and filterability of erythrocytes in children with disordered liver function). **Pädiatr. Grenzgeb.** 26: 413-422, 1987.

Key words: erythrocyte deformability, liver diseases, phospholipids, erythrocyte membrane (English abstract)

No address available.

EISINGER, J.* and SCARLATA, S.F. The lateral fluidity of erythrocyte membranes. Temperature and pressure dependence. **Biophys. Chem.** 28: 273-281, 1987.

Key words: erythrocyte membrane, membrane fluidity, stress, thermodynamics

Address for reprints: Department of Physiology and Biophysics, Mount Sinai School of Medicine, New York, NY 10029, USA.

ERNST, E. Influence of regular physical activity on blood rheology. **Eur. Heart J.** 8: Suppl. G, 59-62, 1987.

Key words: exercise, rheology, intermittent claudication, review

Address for reprints: Hemorheology Research Laboratory, Department of Physical Medicine, University of Munich, Ziemssenstr. 1, 8000 Munich 2, FRG.

ERNST, E.*, MATRAI, A., SIEPMANN, P. and SCHMID, A. Blood rheology of former and active athletes. **J. Sports Med. Phys. Fitness** 27: 373-375, 1987.

Key words: blood flow, rheology, exercise

Address for reprints: as above.

GELMINI, G.*, DELSIGNORE, R. and COIRO, V. Evaluation of erythrocyte deformability in pre-menopausal and post-menopausal women. **Maturitas** 9: 275-281, 1987.

Key words: erythrocyte deformability, menopause, fibrinogen, lipoproteins, triglycerides

Address for reprints: Medical Clinic, University of Parma, School of Medicine, Italy.

GILLIES, P. and ROBINSON, C. Decreased plasma membrane fluidity in the development of atherosclerosis in cholesterol-fed rabbits. **Atherosclerosis** 70: 161-164, 1988.

Key words: arteriosclerosis, membrane fluidity, dietary cholesterol, animal

Address for reprints: Medical Products Department, E.I. du Pont de Nemours & Co., Wilmington, Delaware 19898, USA.

HEILMANN, L. Hämorheologische Befunde bei der schweren Gestose (Hemorheologic findings in severe gestosis). **Geburtshilfe Frauenheilk.** 47: 764-769, 1987.

Key words: hemodynamics, pregnancy toxemias, hemodilution (English abstract)

Address for reprints: Zentrum für Frauenheilkunde, GHS, 4300 Essen, FRG.

HEILMANN, L. Blood rheology and pregnancy. **Baillieres Clin. Haematol.** 1: 777-799, 1987.

Key words: blood viscosity, pregnancy, blood flow velocity, review

Address for reprints: as above.

HOUSE, S.D.* and LIPOWSKY, H.H. Leukocyte-endothelium adhesion: microhemodynamics in mesentery of the cat. **Microvasc. Res.** 34: 363-379, 1987.

Key words: vascular endothelium, leukocytes, blood flow velocity, blood viscosity, microcirculation

Address for reprints: Department of Physiology and Cellular Biophysics, College of Physicians and Surgeons, Columbia University, New York, New York 10032, USA.

HURD, T.C.*, DASMAHAPATRA, K.S., RUSH, B.F. Jr. and MACHIEDO, G.W. Red blood cell deformability in human and experimental sepsis. **Arch. Surg.** 123: 217-220, 1988.

Key words: bacterial infections, erythrocyte deformability, endotoxins

Address for reprints: Surgical Service, Veterans Administration Medical Center, East Orange, NJ, USA.

ITALIAN ACUTE STROKE STUDY GROUP Haemodilution in acute stroke: results of the Italian Haemodilution Trial. **Lancet** 318-320, 1988.

Key words: stroke, hemodilution, hematocrit, clinical efficacy

Address for reprints: Dr. L. Candelise, Istituto di Clinica Neurologica, Università degli Studi, Via F. Sforza 35, 20122 Milano, Italy.

KLEINE, N. Was leistet die Bestimmung der Erythrozyten-Deformabilität durch Porenfiltration bei der Qualitätskontrolle von Blutkonserven? (What does the determination of erythrocyte deformability by pore filtration contribute to the quality control of preserved blood?). **Beitr. Infusionsther. Klin. Ernähr.** 18: 147-150, 1987.

Key words: blood preservation, erythrocyte deformability, filtration, quality control (English abstract)

Address for reprints: Abteilung für Transfusionsmedizin, Universität, 7800 Freiburg, FRG.

KOELBL, H., ECHSEL, H., RANEBURGER, J., VERMES, M. and HOHENEGGER, M. Normal erythrocyte deformability in acute uremic rats (letter). **Nephron** 48: 261-262, 1988.

Key words: erythrocyte deformability, uremia

No address available.

LANGDON, T.J.*, BOERBOOM, L.E., OLINGER, G.N., RODRIGUEZ, E.R. and FERRANS, V.J. Rheologic genesis of aortic coarctation in a canine model. **Am. Heart J.** 115: 489-492, 1988.

Key words: aortic coarctation, coronary circulation, hemodynamics, animal

Address for reprints: Medical College of Wisconsin, Dept. of Cardiothoracic Surgery, Milwaukee 53226, USA.

LICHTMAN, M.A., HEAL, J. and ROWE, J.M. Hyperleukocytic leukaemia: rheological and clinical features and management. **Baillieres Clin. Haematol.** 1: 725-746, 1987.

Key words: blood viscosity, leukemia, rheology, review

No address available.

LINDERKAMP, O. Blood rheology in the newborn infant. **Baillieres Clin. Haematol.** 1: 801-825, 1987.

Key words: erythrocyte aggregation, newborn infant, blood viscosity, review

Address for reprints: Dept. Pediatrics, University, 6900 Heidelberg, FRG.

LOWE, G.D.O. Blood rheology in vitro and in vivo. **Baillieres Clin. Haematol.** 1: 597-636, 1987.

Key words: hematologic diseases, blood viscosity, leukocytes, red cells, review

Address for reprints: Univ. Dept. Med., Royal Infirmary, Glasgow, U.K.

LOWE, G.D.O. Blood rheology in general medicine and surgery. **Baillieres Clin. Haematol.** 1: 827-861, 1987.

Key words: blood viscosity, cardiovascular diseases, rheology, review

Address for reprints: as above.

MARTINEZ, M., VAYA, A. and AZNAR, J. Deformabilidad eritrocitaria. Valores normales y coeficientes de variación con el hemorreometro de Hanss (Erythrocyte deformability. Normal values and coefficients of variation with the Hanss hemorreometer). **Sangre (Barc.)** 32: 700-706, 1987.

Key words: blood flow velocity, erythrocyte deformability, filtration, methods (English abstract)

No address available.

MARTINO, R.*, VULLO, C., SALSINI, G., VELUSSI, C., BETTINI, V., SAMOGGIA, P., KONISHI DE TOFFOLI, G., SANTINELLO, G. and SALVO, G. Rheologic behavior of thalassemic blood and clinical implications. **Birth Defects** 23: 231-237, 1987.

Key words: rheology, thalassemia, blood viscosity, hematology

Address for reprints: Institute of Human Physiology, University of Padua, Italy.

MCKAY, C.B.* and MEISELMAN, H.J. Osmolality-mediated Farhaeus and Fahraeus-Lindqvist effects for human RBC suspensions. **Am. J. Physiol.** 254 (2Pt2), H238-249, 1988.

Key words: blood viscosity, erythrocyte deformability, microcirculation, osmolar concentration

Address for reprints: Department of Physiology and Biophysics, University of Southern California, School of Medicine, Los Angeles 90033, USA.

PANTELY, G.A.*, SWENSON, L.J., TAMBLYN, C.H., SEAMAN, G.V., ANSELONE, C.G., JOHNSON, W.B. and BRISTOW, J.D. Increased vascular resistance due to a reduction in red cell deformability in the isolated hind limb of swine. **Microvasc. Res.** 25: 86-100, 1988.

Key words: erythrocyte deformability, vascular resistance, blood transfusion, vasodilation, microcirculation, animal

Address for reprints: Heart Research Laboratory, Oregon Health Sciences University, Portland 97201, USA.

PEARSON, T.C. Rheology of the absolute polycythaemias. **Baillieres Clin. Haematol.** 1: 637-664, 1987.

Key words: blood viscosity, polycythemia, rheology, erythrocyte indices, review

Address for reprints: Dept. Haematol., St. Thomas' Hospital, Lambeth Palace Road, London SE1 7EH, U.K.

PEI, S.X., GOU, J.X. and SUI, X.L. Hemorheology in highlanders of Lhasa. **Chung Hua Nei Ko Tsa Chih** 26: 471-473, 1987.

Key words: anoxia, blood viscosity, altitude sickness (English abstract)

No address available.

RHOADS, D.L.*, WEI, L.X., LIN, E.T., REZVANI, A. and WAY, E.L. Opioids and rat erythrocyte deformability. **Natl. Inst. Drug Abuse Res. Monogr. Ser.** 75: 121-124, 1986.

Key words: erythrocyte deformability, narcotics, drug tolerance

Address for reprints: Department of Pharmacology, School of Medicine and Drug Studies Unit, School of Pharmacy, University of California, San Francisco 94143, USA.

RODGERS, B.D.*, HRESHCHYSHYN, M.M., LEE, R.V., RODGERS, D. and AMBRUS, C.M. Erythrocyte filterability in normal and high-risk pregnancy. **Obstet. Gynecol.** 71: 192-197, 1988.

Key words: cardiovascular, pregnancy, complications, insulin-dependent diabetes mellitus, hypertension

Address for reprints: Division of Maternal-Fetal Medicine, university of Buffalo, State University of New York, USA.

SCHMID-SCHÖNBEIN, H. Neue pathophysiologische Vorstellungen zum Entstehungsmechanismus von Gefäßentzündungen: "Angiitis" als Folge des Fahraeus-Vejlens-Effektes bei pathologisch gesteigerter Erythrozytenaggregation gedeutet (New pathophysiologic concepts on the mode of origin of vasculitis: angiitis as a sequela of the Fahraeus-Vejlens effect indicated by increased erythrocyte aggregation). *VASA* 20: 28-32, 1987.

Key words: erythrocyte aggregation, vascular endothelium, rheology, inflammation

Address for reprints: Abtlg. Physiologie, RWTH-Klinikum, 5100 Aachen, FRG.

SIMPSON, L.O. Unsaturated fatty acids (letter). *N. Z. Med. J.* 101: 180, 1988.

Key words: erythrocyte deformability, unsaturated fatty acids, coronary heart disease

Address for reprints: Pathol. Dept., Univ. of Otago, Med. School, Dunedin, New Zealand.

SOMER, T. Rheology of paraproteinemias and the plasma hyperviscosity syndrome. *Baillieres Clin. Haematol.* 1: 695-723, 1987.

Key words: blood viscosity, paraproteinemias, erythrocyte aggregation, plasma volume, review

No address available.

STOLTZ, J.F.*, DONNER, M. and LARCAN, A. Introduction to hemorheology: theoretical aspects and hyperviscosity syndromes. *Int. Angiol.* 6: 119-132, 1987.

Key words: blood viscosity, erythrocyte aggregation, blood proteins

Address for reprints: U 284 INSERM, Vandoeuvre Les Nancy, France.

STUART, J.* and JOHNSON, C.S. Rheology of the sickle cell disorders. *Baillieres Clin. Haematol.* 1: 747-775, 1987.

Key words: sickle cell anemia, blood flow velocity, rheology, erythrocyte membrane, review

Address for reprints: Dept. Haematol., University of Birmingham, U.K.

TUROWSKI, A.*, SCHMIDT, H.H. and STERNITZKY, R. Die Behandlung peripherer arterieller Durchblutungsstörungen (PAD) mit rheologisch aktiven Maßnahmen (Treatment of peripheral arterial occlusive disorders with rheologically active measures). *Z. Ärztl. Fortbild.* 81: 883-888, 1987.

Key words: arterial occlusive diseases, hemodilution, pentoxifylline, blood viscosity

Address for reprints: Klinik für Innere Medizin Theodor Brugsch, Bereich Medizin (Charite), Humboldt-Universität zu Berlin, GDR.

VAYA, A., MARTINEZ, M., CARBONELL, P. and AZNAR, J. Efectos clinicls y hemorreologicos de la pentoxifilina en enfermos con arteriopatía obliterante de miembros inferiores (Clinical and hemorreologic effects of pentoxifylline in patients with obliterative arteriopathy of the legs). *Angiologia* 39: 262-268, 1987.

Key words: arterial occlusive diseases, erythrocyte deformability, pentoxifylline, intermittent claudication (English abstract)

No address available.

WAUGH, R.E.* and AGRE, P. Reductions of erythrocyte membrane viscoelastic coefficients reflect spectrin deficiencies in hereditary spherocytosis. **J. Clin. Invest.** 81: 133-141, 1988.

Key words: erythrocyte deformability, hereditary spherocytosis, elasticity, viscosity

Address for reprints: Dept. of Biophysics, University of Rochester, School of Medicine and Dentistry, New York 14642, USA.

WEGNER, G.* and KUCERA, W. Veränderungen der Erythrozytendeformierbarkeit während der Blutkonservierung (Changes in erythrocyte deformability in blood preservation). **Z. Gesamte Inn. Med.** 42: 575-581, 1987.

Key words: blood preservation, erythrocyte deformability, hematocrit

Address for reprints: Institut für Transfusiologie und Transplantologie, Humboldt-Universität zu Berlin, Bereich Medizin (Charite), GDR.

WEGNER, G.*, KUCERA, W., and LERCHE, D. Investigations on the deformability of human red blood cells stored in different preservative solutions: influence of changed medium composition. **Biomed. Biochim. Acta** 46: 605-609, 1987.

Key words: erythrocyte deformability, blood preservation, osmolar concentration, viscosity

Address for reprints: as above.

WEGNER, G.*, KUCERA, W. and LERCHE, D. Deformability characterization of erythrocytes stored in different resuspension media. **Folia Haematol.** 114: 476-477, 1987.

Key words: blood preservation, erythrocyte deformability, sodium chloride

Address for reprints: as above.

WEGNER, G.*, KUCERA, W., TOURSEL, W. and LERCHE, D. Deformability of human red blood cells stored for different periods at subzero temperatures. **Biomed. Biochim. Acta** 46: 599-603, 1987.

Key words: blood preservation, erythrocyte deformability, hemoglobins, time factors

Address for reprints: as above.

WEGNER, G.*, KUCERA, W., TOURSEL, W. and LERCHE, D. Deformability investigations of erythrocytes stored at different temperatures. **Folia Haematol.** 114: 474-475, 1987.

Key words: blood preservation, erythrocyte deformability, blood transfusion

Address for reprints: as above.

ZAMORANO, A.F., ARNALICH, F., FERRO-SANCHEZ, A., GRANDE, C., LAHOZ, C. and PALLARDO, L.F. Deformabilidad eritrocitaria y lipidos de la membrana eritrocitaria en la diabetes mellitus (Erythrocyte deformability and lipids of the erythrocyte membrane in diabetes mellitus). **Med. Clin.** 89: 717-729, 1987.

Key words: insulin-dependent diabetes mellitus, blood viscosity, lipids (English abstract)

No address available.