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CLINICAL HEMORHEOLOGY - LITERATURE SURVEY

Editor: E. Ernst

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

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ACQUAYE, C.*, WALKER, E.C. and SCHECHTER, A.N. The development of a filtration system for evaluating flow characteristics of erythrocytes. **Microvasc. Res.** 33: 1-14, 1987.

Key words: instrumentation, erythrocyte deformability

Address for reprints: Laboratory of Chemical Biology, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, Maryland 20892, USA.

AMORUSO, M.A.*, WITZ, G. and GOLDSTEIN, B.D. Alteration of erythrocyte membrane fluidity by heavy metal cations. **Toxicol. Ind Health** 3: 135-144, 1987.

Key words: calcium, lead, fluorescence polarization

Address for reprints: Department of Environmental and Community Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, New Jersey 08854-5635, USA.

ANGELKORT, B. Blutrheologie bei peripherer Verschlusskrankheit. Effekte von Hämodilution und Pentoxifyllin. (Blood rheology in peripheral vascular disease. Effects of hemodilution and pentoxifylline) **Wien. Med. Wochenschr.** 136: 29-35, 1986.

Key words: combined modality therapy, review (English abstract)

Address for reprints: Medizinische Klinik Nord der Städtischen Kliniken Dortmund, FRG.

ANTIGNANI, P.L.*, TODINI, A.R., SALICETI, F., PACINO, G. and BARTOLO, M. Results of clinical, laboratory and haemorheological investigations of the use of pentoxifylline in high doses. *Pharmatherapeutica* 5: 50-56, 1987.
Key words: pentoxifylline, arterial occlusive disease, haemodynamics
Address for reprints: Ospedale San Camillo, Angiology Division, Rome, Italy.

ASAHI, R. Effect of water-soluble iodinated contrast media on red cell shape and blood viscosity. *Nippon Ika Daigaku Zasshi* 54: 162-172, 1987.
Key words: blood viscosity, adverse effects, iodine (English abstract)
No address available.

BARTON, I.K., MANSELL, M.A. and GRIMES, A.J. Red cell filterability: correcting for the cell size effect (letter). *Br. J. Haematol.* 65: 248-249, 1987.
Key words: red cell filterability
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BOISSEAU, M.R.*, FREYBURGER, G. and LORIENT-ROUDAUT, M.F. Changes in blood filterability in cerebrovascular accidents. *Wien. Med. Wochenschr.* 136: 44-46, 1986.
Key words: cerebrovascular disorders, blood proteins, fibrinogen, hemodilution, leukocytosis, microcirculation, plasma volume
Address for reprints: Laboratoire d'Hemobiologie, Hôpital Cardiologique Université de Bordeaux II, Pessac, France.

BOISSEAU, M.R.*, FREYBURGER, G. and LORIENT-ROUDAUT, M.F. Consequences microcirculatoires des perturbations hemorheologiques (Microcirculatory consequences of hemorheologic disorders). *J. Mal. Vasc.* 12: 127-130, 1987.
Key words: hematologic diseases, vascular diseases, anemia, sickle cell, blood proteins (English abstract)
Address for reprints: as above

BORGATTI, P.P.*, LUSENTI, T., LINDNER, G., FRANCO, V., SOLIANI, F., PAOLICELLI, M. and ZAFFUTO, S. Hemorheology in biofiltration and acetate dialysis (preliminary results). *Int. J. Artif. Organs* 9: 67-70, 1986.
Key words: hemodialysis, ultrafiltration, blood viscosity, microcirculation
Address for reprints: Divisione Nefrologia e Dialisi, Arcispedale S. Maria Nuova, Reggio Emilia, Italy.

BOUREL, M.*, GUEGUEN, M., DELAMAIRE, D., DURAND, F. and GENETET, B. Globules rouges et alcool: les manifestations hemorheologiques de l'alcoolisme (Erythrocytes and alcohol: hemorheologic manifestations of alcoholism). *Ann. Gastroenterol. Hepatol. (Paris)* 23: 97-100, 1987.
Key words: blood viscosity, erythrocyte deformability, erythrocyte membrane, adenosine triphosphate, cholesterol (English abstract)
Address for reprints: Clinique de Medecine Interne et des Maladies du Foie, Rennes, France.

CECCHIN, E.*, DE MARCHI, S., PANARELLO, G. and DE ANGELIS, V. Rheological abnormalities of erythrocyte deformability and increased glycosylation of hemoglobin in the nephrotic syndrome. *Am. J. Nephrol.* 7: 18-21, 1987.
Key words: hemoglobin A, blood glucose, metabolism, blood viscosity, glycosylation, hemostasis
Address for reprints: Department of Nephrology and Dialysis, Hospital of Codroipo, Udine, Italy.

CELSIN, F.*, SVEDENHA, J., PIHLSTED, P. and EKBLUM, B. Influence of changes in viscosity and hemoglobin concentration on maximal aerobic power in individuals with high and low hemoglobin concentration. *Act. Physiol. Scand.* 129: 43, 1987.

Key words: muscle perfusion, optimal hematocrit

Address for reprints: Karolinska Inst., Dept. Physiol. 3, S-11433 Stockholm, Sweden.

CHABANEL, A., REINHART, W. and CHIEN, S.* Increased resistance to membrane deformation of shape-transformed human red blood cells. *Blood* 69: 739-743, 1987.

Key words: erythrocyte deformability, adenosine triphosphate, chlorpromazine, sodium salicylate

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

CHIEN, S. Red cell deformability and its relevance to blood flow. *Annu. Rev. Physiol.* 49: 177-192, 1987.

Key words: review, microcirculation, hemodynamics

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Key words: microcirculation, mathematics, capillaries

Address for reprints: Department of Physiology, University of Virginia School of Medicine, Charlottesville 22908, USA.

DORMANDY, J.A. The clinical relevance of the flow properties of blood cells. *Wien. Med. Wochenschr.* 136: 41-43, 1986.

Key words: blood viscosity, erythrocyte deformability, leukocytes, microcirculation, review

Address for reprints: St. James' Hospital, Sarsfeld Road, London, UK.

DORMANDY, J.A. Serotonin and haemorheology. *Int. J. Cardiol.* 14: 213-219, 1987.

Key words: ketanserin, serotonin, capillary permeability, erythrocyte deformability, ischemia, leukocytes, microcirculation

Address for reprints: as above

DUDAIEV, V.A., DIUKOV, T.V., ANDREEV, E.F., BORODKIN, V.V. and AL'-MURABAK, M. Effect of physical training on lipid metabolism and the rheologic properties of the blood of patients with ischemic heart disease. *Kardiologiia* 26: 55-60, 1986.

Key words: rehabilitation, exercise therapy, fibrinogen (English abstract)

No address available.

EL-SAAIEE, L.* and MEKY, N. Deformability of red blood cells in eczema. *J. Med. Clin. Exp. Theor.* 17: 273-283, 1986.

Key words: calcium, cell membrane, potassium, sodium

Address for reprints: Department of Dermatology and Venereology, Faculty of Medicine, Al-Azhar University, Cairo, Egypt.

ERNST, E.*, HAMMERSCHMIDT, D.E., BAGGE, U., MATRAI, A. and DORMANDY, J.A. Leukocytes and the risk of ischemic diseases. *JAMA* 257: 2318-2324, 1987.

Key words: epidemiology, arteriosclerosis, leukocyte aggregation, free radicals, risk factors

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

ERNST, E.* and MATRAI, A. Abstention from chronic cigarette smoking normalizes blood rheology. *Atherosclerosis* 64: 75-77, 1987.

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Key words: erythrocyte deformability, anemia, polycythemia (English abstract)

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Key words: pentoxifylline, diabetes mellitus, diabetic nephropathies, diabetic retinopathy, diabetic angiopathies, fibrinogen, erythrocyte deformability

Address for reprints: Department of Internal Medicine and Medical Therapy, Medical Clinici II, University of Pavia, Pavia, Italy.

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Key words: blood viscosity, cerebral ischemia, hemodynamics, human microcirculation, review, rheology

Address for reprints: Institut für Physiologie, Freie Universität Berlin, FRG.

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Key words: drug effects, anti-inflammatory medication, coronary heart disease

Address for reprints: Krankenhaus Pfullendorf, Abtlg. Innere Medizin/Kardiologie, Alte Postgasse 1, 7798 Pfullendorf, FRG.

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HARDEMANN, M.R.*, GOEDHART, P. and BREEDERVELD, D. Laser diffraction ellipsometry of erythrocytes under controlled shear stress using a rotational viscosimeter. *Clin. Chim. Acta* 165: 227-234, 1987.

Key words: ektacytometry, erythrocyte deformability, erythrocyte aggregometry, viscosimetry, laser diffraction, hemorheology

Address for reprints: Department of Internal Medicine, Academic Medical Centre, Meibergdreef 9, 1105 AZ Amsterdam, The Netherlands.

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Key words: erythrocyte membrane, physiology, membrane fluidity, zinc, deficiency, animal, electron spin resonance

Address for reprints: Division of Medical Chemistry and Pharmacognosy, College of Pharmacy, University of Kentucky, Lexington 40536-00848, USA.

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Key words: blood viscosity, cerebral infarction, therapy, review (English abstract)

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Key words: denbufylline, pentoxifylline, blood viscosity, erythrocyte filterability, leukocyte filterability

Address for reprints: Beecham-Wülfing Research Laboratories, D-3212 Gronau (Leine), FRG.

KAIBARA, M.* and MARUMOTO, Y. Hemorheological characteristics of gestational diabetes. A possible mechanism of placental hypertrophy. *Nippon Sanka Fujinka Gakkai Zasshi* 39: 712-714, 1987.

Key words: blood viscosity, erythrocyte deformability, placenta, in diabetes, microcirculation, pregnancy (English abstract)

Address for reprints: Department of Obstetrics and Gynecology, Ichihara Hospital, University of Teikyo School of Medicine, Chiba, Japan.

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Key words: epidemiology, risk factor, coagulation, morbidity, mortality

Address for reprints: Doctor's Office Building, Suite 1105, 720 Harrison Ave., Boston, MA 02118, USA.

KANNEL, W.B.*, WOLF, P.A., CASTELLI, W.P. and D'AGOSTINO, R.B. Fibrinogen and risk of cardiovascular disease. *JAMA* 258: 1183-1186, 1987.

Key words: fibrinogen, cardiovascular risk factors, viscosity, hemostasis

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Key words: erythrocyte deformability, human, review (English abstract)

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KON, K.*, MAEDA, N. and SHIGA, T. Erythrocyte deformation in shear flow: influences of internal viscosity, membrane stiffness, and hematocrit. *Blood* 69: 727-734, 1987.

Key words: dextrans, hematocrit, erythrocyte membrane, drug effects, diamide

Address for reprints: Department of Physiology, School of Medicine, Ehime University, Japan.

LANDGRAF, H. Hemodilution. *Wien. Med. Wochenschr.* 136: 36-40, 1986.

Key words: blood viscosity, erythrocyte deformability, fibrinogen, hemodynamics, review (English abstract)

Address for reprints: Abteilung für Angiologie, Universitätsklinikum Frankfurt/Main, FRG.

LECHNER, H.*, NIEDERKORN, K. and OTT, E. Zur Frage der Interaktion Gefäßwand, cerebral blood flow und Hämorheologie bei Patienten mit cerebrovaskulärer Insuffizienz (Interaction of the vascular wall, cerebral blood flow and hemorheology in patients with cerebrovascular insufficiency). *Nervenarzt* 58: 187-189, 1987.

Key words: cerebral ischemia, cerebrovascular circulation, rheology, carotid artery diseases, platelet aggregation (English abstract)

Address for reprints: Psychiatrisch-Neurologische Universitätsklinik Graz, Austria.

LECHNER, H.*, OTT, E., NIEDERKORN, K. and FAZEKAS F. Present status of hemorheology in neurology. *Wien. Med. Wochenschr.* 136: 2-4, 1986.

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Key words: blood viscosity, therapy, erythrocyte aggregation, erythrocyte deformability, fibrinogen, hemodilution, microcirculation (English abstract)

Address for reprints: Medizinische Klinik, Schwerpunkt Kardiologie, Universitätsklinik Marburg, FRG.

MILLER, M.E.*, ANAGNOSTOU, A.A., LEY, B., MARSHALL, P. and STEINER, M. Effect of fish oil concentrates on hemorheological and hemostatic aspects of diabetes mellitus: a preliminary study. *Thromb. Res.* 47: 201-214, 1987.

Key words: fish oil, diabetes mellitus, eicosapentaenoic acid

Address for reprints: Department of Medicine, Division of Hematology and Endocrinology, Memorial Hospital, Brown University School of Medicine, Pawtucket, RI 02860, USA.

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

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Key words: cerebral ischemia, hypertension, diabetes mellitus, erythrocyte aggregation, erythrocyte deformability, fibrinogen, hematocrit, hyperlipidemia (English abstract)

Address for reprints: Psychiatrisch-Neurologische Universitätsklinik Graz, Austria.

PERKKIÖ, J.*, WURZINGER, L.J. and SCHMID-SCHÖNBEIN, H. Plasma and platelet skimming at T-junctions. **Thrombosis Research** 45: 517-526, 1987.

Key words: plasma skimming, phase separation, blood platelets, hematocrit, bifunctions

Address for reprints: Department of Medical Physics, University of Helsinki, Siltavuorenpenger 10, SF-00170 Helsinki, Finland.

PINEDA, A.A.*, RIPPETEAU, N.D., CLARE, D.E. and BUNKOWSKE B.M. Infusion flow rates of whole blood and AS-1-preserved erythrocytes, a comparison. **Mayo. Clin. Proc.** 62: 199-202, 1987.

Key words: blood preservation, blood transfusion, glucose, hematocrit, human, in vitro, mannitol, rheology

Address for reprints: Blood Bank and Transfusion Services, Mayo Clinic, Rochester, MN 55905, USA.

PURANAPANDA, V.*, HINSHAW, L.B., O'REAR, E.A., CHANG, A.C. and WHITSETT, T.L. Erythrocyte deformability in canine septic shock and the efficacy of pentoxifylline and a leukotriene antagonist. **Proc. Soc. Exp. Biol. Med.** 185: 206-210, 1987.

Key words: drug effects, escherichia coli infections, microcirculation, antagonists and inhibitors

Address for reprints: Department of Physiology and Biophysics, University of Oklahoma Health Sciences Center, Oklahoma City 73104, USA.

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Key words: acupuncture, cerebral infarction, plants, chinese traditional medicine, blood viscosity (English abstract)

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Key words: coronary heart disease, myocardial blood flow, rheology

Address for reprints: Department of Physiology and Biophysics, University of Southern California School of Medicine, 2025 Zonal Ave., Los Angeles, CA 90033, USA.

RAITHEL, D. Hemorheologic applications in vascular surgery. *Wien. Med. Wochenschr.* 136: 25-28, 1986.

Key words: aortic aneurysm, aspirin, postoperative complications, review (English abstract)

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RAPPORT, Z.Z. and GAIMOLENKO, I.N. Rheologic characteristics of the blood of children during an attack of bronchial asthma. *Pediatrics* 12: 23-25, 1986.

Key words: asthma, child, human, rheology (English abstract)

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Key words: cholesterol, erythrocyte indices, hemoglobins (English abstract)

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REINHART, W.H. Fließeigenschaften des Blutes und ihre therapeutische Beeinflussbarkeit (Flow characteristics of blood and its therapeutic modification). *Schweiz. Med. Wochenschr.* 117: 693-697, 1987.

Key words: bloodletting, plasmapheresis, erythrocyte aggregation, erythrocyte deformability, hematocrit (English abstract)

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Key words: blood viscosity, blood volume, fibrinogen, erythrocyte deformability, hemodilution, microcirculation, plasmapheresis.

Address for reprints: Aggertalklinik, Hospital for Vascular Diseases, Engelskirchen, FRG.

RUDOFISKY, G. The effect of ginkgo biloba extract in cases of arterial occlusive disease. *Fortschr. Med.* 105: 397-400, 1987.

Key words: intermittent claudication, ginkgo biloba extract, clinical, rheology (English abstract)

Address for reprints: Abteilung für Innere Medizin, Bundeswehrkrankenhaus Ulm/Donau, FRG.

RUHENSTROTH-BAUER, G.*, MÖSSMER, G., OTTL, J., KOENIG-ERICH, S. and HEINEMANN, G. Highly significant negative correlations between erythrocyte aggregation value and serum concentration of high density lipoprotein cholesterol in a sample from a normal population and in patients with coronary heart disease. *Europ. J. Clin. Invest.* 17: 275-279, 1987.

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Key words: aspirin, Raynaud's disease, theobromine, tolazoline, pentoxifylline, comparative study (English abstract)

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SACKS, F.M., STAMPFER, M.J., MUNOZ, A., MCMANUS, K., CANESSA, M. and KASS, E.H. Effect of linoleic and oleic acids on blood pressure, blood viscosity, and erythrocyte cation transport. *J. Am. Col. N.* 6: 179-185, 1987.

Key words: red cell membrane, nutrition, rheology, risk factors

Address for reprints: 180 Longwood Ave, Boston, MA 02115, USA.

SCHMID-SCHÖNBEIN, G.W. Capillary plugging by granulocytes and the no-reflow phenomenon in the microcirculation. *Fed. Proc.* 46: 2397-2401, 1987.

Key words: capillaries, granulocytes, microcirculation, cell adhesion, review

Address for reprints: Department of Applied Mechanics and Engineering, Sciences-Bioengineering, University of California, San Diego, La Jolla 92093, USA.

SHINAR, E., SHALEV, O., RACHILEWITZ, E.A. and SCHRIER, S.L*. Erythrocyte membrane skeleton abnormalities in severe β -thalassemia. *Blood* 70: 158-164, 1987.

Key words: cytoskeleton, hematology, red cell rigidity

Address for reprints: Division of hematology, Stanford University Medical Center, Stanford, CA 94305, USA.

SIMPSON, L.O. Blood viscosity and lowering blood pressure (letter). *Lancet* 580, 1987.

Key words: risk factors, hypertension

Address for reprints: Department of Pathology, University of Otago Medical School, PO Box 913, Dunedin, New Zealand.

SIMPSON, L.O.*, SHAND, B.I., OLDS, R.J., LARKING, P.W. and ARNOTT, M.J. Red cell and hemorheological changes in multiple sclerosis. *Pathology* 19: 51-55, 1987.

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SMITH, C.M.*, HEBBEL, R.P., TUKEY, D.P., CLAWSON, C.C., WHITE, J.G. and VERCELLOTTI, G.M. Pluronic F-68 reduces the endothelial adherence and improves the rheology of liganded sickle erythrocytes. *Blood* 69: 1631-1636, 1987.

Key words: anemia, erythrocyte aggregation, erythrocyte deformability, polyethylene glycols, blood substitutes, cell adhesion

Address for reprints: Department of pediatrics, University of Minnesota Health Science Center, Minneapolis 55455, USA.

STÄUBLI, B.*, ROESSLER, B. and STRAUB, P.W. Fluid trapping of erythrocytes under hypoosmolar conditions. *Blut* 54: 239-245, 1987.

Key words: osmolality, erythrocytes, rheology

Address for reprints: Thrombosis Research Laboratory, Department of Internal Medicine, University of Berne, Inselspital, CH-3010 Bern, Switzerland.

STUART, J. Red cell filterability and cell size (letter). *Brit. J. Haematol.* 66: 431-434, 1987.

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Address for reprints: Department of Hematology, Medical School, University of Birmingham, Birmingham B15 2TJ, GB.

TILLES, A.W.* and ECKSTEIN, E.C. The near-wall excess of platelet-sized particles in blood flow: its dependence on hematocrit and wall shear rate. *Microvasc. Res.* 33: 211-223, 1987.

Key words: blood platelets, erythrocytes, microcirculation, hematocrit

Address for reprints: Department of Biomedical Engineering, College of Engineering, University of Miami, Coral Gables, Florida 33124, USA.

TILLMANN, W. Reduced deformability of erythrocytes as a common denominator of hemolytic anemias. *Wien. Med. Wochenschr.* 136: 14-16, 1986.

Key words: glucosephosphate dehydrogenase deficiency, chromosome abnormalities, hemoglobinopathies, pyruvate kinase, spherocytosis, review (English abstract)

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