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CLINICAL HEMORHEOLOGY - LITERATURE SURVEY

Editor: E. Ernst

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AL-KHAJA, N.*, BELBOUL, A., BERGMAN, P., ROBERTS, D. and WILLIAM-OLSSON, G. Cutaneous microcirculation and blood rheology following cardiopulmonary bypass. Laser Doppler flowmetric and blood cell rheologic studies. **Scand. J. Thorac. Cardiovasc. Surg.** 22: 149-153, 1988.

Key words: aortocoronary bypass, erythrocyte deformability, flowmeters, microcirculation

Address for reprints: Department of Thoracic and Cardiovascular Surgery, Sahlgrenska Sjukhuset, University of Gothenburg, Sweden.

AREEKUL, S. and YAMARAT, P. Alterations in the viscosity and deformability of red cells in patients with Plasmodium falciparum. **J. Med. Assoc. Thai.** 71: 106-202, 1988.

Key words: blood viscosity, erythrocyte deformability, malaria, plasmodium falciparum

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CACCIARI, E.*, BALSAMO, A., PALARETI, G., CASSIO, A., ARGENTO, R., POGGI, M., TASSONI, P., CICOGNANI, A., TACCONI, M., PASCUCI, M.G. et al. Haemorheologic and fibrinolytic evaluation in obese children and adolescents. **Eur. J. Pediatr.** 147: 381-384, 1988.

Key words: blood circulation, fibrinolysis, obesity, blood proteins

Address for reprints: Department of Paediatrics, University of Bologna, Italy.

CHASIS, J.A.*, AGRE, P. and MOHANDAS, N. Decreased membrane mechanical stability and in vivo loss of surface area reflect spectrin deficiencies in hereditary spherocytosis. **J. Clin. Invest.** 82: 617-623, 1988.

Key words: erythrocyte deformability, hereditary spherocytosis, osmolar concentration, surface properties

Address for reprints: Department of Medicine and Laboratory Medicine, University of California, San Francisco 94143, USA.

CIUFFETTI, G., MERCURI, M., RIZZO, M.T. and LOMBARDINI, R. Flow properties of white blood cells (letter). **Br. Med. J.** 297: 292, 1988.

Key words: leukocytes, vascular diseases, ischemia

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COLETTA, M.*, ALAYASH, A.I., WILSON, M.T., BENEDETTI, P.A., EVANGELISTA, V. and BRUNORI, M. Single cell microspectroscopy reveals that erythrocytes containing hemoglobin S retain a "memory" of previous sickling cycles. **FEBS Lett.** 236: 127-131, 1988.

Key words: sickle cell anemia, erythrocyte deformability, spectrophotometry

Address for reprints: Dept. of Biochemical Sciences, University of Rome, La Sapienza, Italy.

DAMEN, J.*, DE WIDT, J., HILKMANN, H. and VAN BLITTERSWIJK, W.J. Effect of dietary lipids on plasma lipoproteins and fluidity of lymphoid cell membranes in normal and leukemic mice. **Biochim. Biophys. Acta** 943: 166-174, 1988.

Key words: leukemia, membrane fluidity, fatty acids, fluorescence spectrometry

Address for reprints: Division of Cellular biochemistry, The Netherlands Cancer Institute (Antoni van Leeuwenhoek-Huis), Amsterdam, The Netherlands.

DOERP, E.*, WUESTENBERG, P.W., SCHUMANN, L., SCHROEDER, J., TREKEL, S., FALKENHAGEN, D., KLINKMANN, H., PREUSSNER, S., PUTZKE, H.P. and ROEVER, K.H. Hämorrheologische/hämodynamische Untersuchungen an miniaturisierten Kapillarfiltern im Entwicklungskonzept für eine implantierbare künstliche Niere (Hemorheological/hemodynamic study on miniaturized capillary filters in the concept of an implantable artificial kidney). **Z. Exp. Chir. Transplant. Künstl. Organe** 21: 119-127, 1988.

Key words: capillaries, artificial implants, renal circulation (English abstract)

Address for reprints: Abt. für Pathophysiologie, W.-Pieck-Universität Rostock, GDR.

ELSON, E.L. Cellular mechanics as an indicator of cytoskeletal structure and function. **Annu. Rev. Biophys. Biophys. Chem.** 17: 397-430, 1988.

Key words: cytoplasm, erythrocyte deformability, review

Address for reprints: Department of Biological Chemistry, Washington University School of Medicine, St. Louis, Missouri 63110, USA.

ERNST, E.*, MARSHALL, M. and MATRAI, A. Does prostacyclin analogue Iloprost change blood rheology? Results from a double blind trial with intravenous application in diabetics. **VASA** 17: 89-91, 1988.

Key words: blood flow velocity, diabetic angiopathies, prostaglandins, arterial occlusive diseases

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

ERNST, E.* and MATRAI, A.

Discriminatory function of hemorheological variables in peripheral arterial disease. *VASA* 17: 98-101, 1988.

Key words: arterial occlusive diseases, blood viscosity, hematocrit

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FREYBURGER, G., MANCIET, G., LARRUE, J. and BOISSEAU, M.R.* Desordres hemorheologiques chez les personnes (tres) agees. Amelioration par le polysulfate de pentosane. Effet sur les metabolites leucocytaires et plaquettaires de l'acide arachidonique (Hemorheological disorders in very old persons. Improvement with pentosan polysulfate. Effect on leukocyte and platelet metabolites of arachidonic acid). *Therapie* 43: 205-210, 1988.

Key words: blood circulation, polysaccharides, arachidonic acids, blood viscosity (English abstract)

Address for reprints: Hopital Cardiologique, Universite de Bordeaux II, France.

GIBNEY, M.J.* and BOLTON-SMITH, C. The effect of a dietary supplement of n-3 polyunsaturated fat on platelet lipid composition, platelet function and platelet plasma membrane fluidity in healthy volunteers. *Br. J. Nutr.* 60: 5-12, 1988.

Key words: blood platelets, unsaturated fatty acids, fish oils

Address for reprints: Department of Nutrition, University of Southampton, U.K.

HESTER, R.L.* and DULING, B.R. Red cell velocity during functional hyperemia: implications for rheology and oxygen transport. *Am. J. Physiol.* 255: H236-244, 1988.

Key words: blood flow velocity, erythrocytes, muscle contraction, electric stimulation, blood flow

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

HIRAYAMA, T.*, ROBERTS, D., ALLERS, M., BELBOUL, A., AL-KHAJA, N. and WILLIAM-OLSSON, G. Association between arrhythmias and reduced red cell deformability following cardiopulmonary bypass. *Scand. J. Thorac. Cardiovasc. Surg.* 22: 179-180, 1988.

Key words: arrhythmia, cardiopulmonary bypass, postoperative complications, erythrocyte deformability

Address for reprints: Department of Thoracic and Cardiovascular Surgery, Sahlgrenska Sjukhuset, University of Gothenburg, Sweden.

HIRAYAMA, T.*, ROBERTS, D., ALLERS, M., BELBOUL, A., AL-KHAJA, N. and WILLIAM-OLSSON, G. Association between pulmonary dysfunction and reduced red cell deformability following cardiopulmonary bypass. *Scand. J. Thorac. Cardiovasc. Surg.* 22: 175-177, 1988.

Key words: cardiopulmonary bypass, postoperative complications, erythrocyte deformability

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HIRAYAMA, T.*, ROBERTS, D., ALLERS, M., BELBOUL, A., AL-KHAJA, N. and OLSSON, G. Association between bleeding and reduced red cell deformability following cardiopulmonary bypass. *Scand. J. Thorac. Cardiovasc. Surg.* 22: 171-174, 1988.

Key words: cardiopulmonary bypass, postoperative complications, erythrocyte deformability

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Key words: adenosine triphosphate, cerebral infarction, erythrocyte deformability (English abstract)

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Key words: hypothyroidism, erythrocytes, blood viscosity

Address for reprints: Hospital Barmherzige Brüder, Graz-Eggenberg, Austria.

LIUSOV, V.A. and SAVENKOV, M.P. Sovremennye problemy terapii narushenii reologicheskikh svoistv krovi u bol'nykh ishemiceskoi bolezni serdca (Current problems of the treatment of disorders of the rheological properties of the blood in patients with ischemic heart disease). **Kardiologiya** 28: 5-9, 1988.

Key words: blood rheology, coronary disease, review

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MURASHKO, V.V., DZHANASHIIA, P.K., CHIGOGIDZE, N.A. and PETROSIAN, I.S. Vliianie reologicheskikh svoistv krovi na vnutriserdechnuiu gemodinamiku u bol'nykh priobretennymi mitral'nymi porokami serdca (Effect of the rheological properties of the blood on the intracardiac hemodynamics in patients with acquired mitral valve defects). **Kardiologiya** 28: 69-72, 1988.

Key words: mitral valve insufficiency, blood viscosity, rheumatic heart disease (English abstract)

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NIIMI, H. Endothelial injury as an initiating factor: rheology factors in the pathogenesis of early-stage atherosclerosis. **Nippon Rinsho** 46: 543-551, 1988.

Key words: arteriosclerosis, rheology, blood flow velocity

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NIORT, G.*, BULGARELLI, A., CASSADER, M. and PAGANO, G. Effect of short-term treatment with bezafibrate on plasma fibrinogen, fibrinopeptide A, platelet activation and blood filterability in atherosclerotic hyperfibrinogenemic patients. **Atherosclerosis** 71: 113-119, 1988.

Key words: arteriosclerosis, blood coagulation disorders, fibrinogen, blood platelets

Address for reprints: Istituto di Medicina Interna, Universita di Torino, Italy.

REDCHITS, E.G., PARFENOV, A.S., ABSHILAVA, D.O. and PRONEVICH, I.K. Vzaimosviaz reologicheskikh svoistv krovi i sostoianii tsentral'noi gekodinamiki u bol'nykh so stabil'noi formoi gipertonicheskoi bolezni (Interrelation of the rheological properties of the blood and the state of central hemodynamics in patients with a stable form of hypertension). **Kardiologiya** 28: 77-80, 1988.

Key words: hemodynamics, hypertension, blood viscosity vascular resistance (English abstract)

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SANTOLAZA, C.*, HERNANDEZ, M.R. and VILLAVARDE, C.A. Thrombosis and blood cells in atherosclerosis development. **Microcirc. Endothel. Lymph.** 4: 195-203, 1988.

Key words: arteriosclerosis, coronary disease, mesenteric arteries, rheology
Address for reprints: Dept. de Farmcologia y Patologia Experimental, Centro de Investigacion y Desarrollo de Barcelona, C.S.I.C., Spain.

SCHMID-SCHÖNBEIN, H.*, SCHRÖDER, S., GREBE, R., ARTMANN, G., ESCHWEILER, H. and TEITEL, P. Influence of moxaverine hydrochloride on membrane curvature and microsieve filterability of red cells after exposure to hyperosmolarity and lacticidosis. **Arzneimittelforschung** 38: 710-716, 1988.

Key words: lactic acidosis, erythrocyte deformability, parasympathotics, hypertonic solutions

Address for reprints: Department of Physiology, Rheinisch-Westfälische Technische Hochschule Aachen, FRG.

SCHWARTZ, J.A.*, KEAGY, B.A., and JOHNSON, G. Jr. Determination of whole blood apparent viscosity: experience with a new hemorheologic technique. **J. Surg. Res.** 45: 238-247, 1988.

Key words: blood viscosity, comparative study, hemodilution

Address for reprints: Department of Surgery, University of North Carolina School of Medicine, Chapel Hill 27599, USA.

SHAND, B.I., BAILEY, R.R. and SIMPSON, L.O.* Blood rheology in IgA nephropathy. **Clin. Nephrol.** 29: 288-293, 1988.

Key words: erythrocyte deformability, glomerulonephritis, hematocrit

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

SIMPSON, L.O.*, SHAND, B.I. and OLDS, R.J. A reappraisal of the influence of blood rheology on glomerular filtration and its role in the pathogenesis of diabetic nephropathy. **J. Diabetic Complications** 1: 137-144, 1987.

Key words: diabetes mellitus, diabetic nephropathies, rheology

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SIMPSON, L.O. Altered blood rheology in the pathogenesis of diabetic and other neuropathies. **Muscle Nerve** 11: 725-744, 1988.

Key words: diabetic neuropathies, nervous system diseases, blood viscosity

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YUAN, Y.W.* and SHUNG, K.K. Ultrasonic backscatter from flowing whole blood. I: Dependence on shear rate and hematocrit. **J. Acoust. Soc. Am.** 84: 52-58, 1988.

Key words: blood flow velocity, erythrocytes, ultrasonics

Address for reprints: Bioengineering Program, Pennsylvania State University, University Park 16802, USA.