

Clinical Hemorheology

CONTENTS AND AUTHOR INDEX

FOR VOLUME 14, 1994

Editors-in-Chief

SIEGFRIED WITTE
Medizinische Abteilung, Diakonissen-Krankenhaus
Diakonissenstr. 28, D-76199 Karlsruhe, Germany

JEAN-FRANÇOIS STOLTZ
Hémorhéologie – Hématologie
Faculté de Médecine, Brabois B.P. 184
F-54505 Vandoeuvre lès Nancy, France

Founded by A.L. Copley



PERGAMON

Clinical Hemorheology

A Companion Journal of 'Biorheology'

**An Official Journal of the International Society of Biorheology, An Affiliated Commission
of the International Union for Pure and Applied Biophysics**

Founded by A.L. Copley

Editors-in-Chief

SIEGFRIED WITTE, Medizinische Abteilung, Diakonissen-Krankenhaus, Diakonissenstr. 28, D-76199 Karlsruhe, Germany, FAX: +49 721 8893044

JEAN-FRANÇOIS STOLTZ, Hémorhéologie – Hématologie, Faculté de Médecine, Brabois B.P. 184, F-54505 Vandoeuvre lès Nancy, France. FAX: +33 83592643

Board of Editors

O.K. BASKURT, Antalya, Turkey

M.R. BOISSEAU, Pessac, France

T. DI PERRI, Siena, Italy

A.M. EHRLY, Frankfurt, Germany

E. ERNST, Exeter, UK

M.R. HARDEMAN, Amsterdam, Netherlands

Y. ISOGAI, Tokyo, Japan

M. KAIBARA, Chiba, Japan

P.L. LA CELLE, Rochester, NY, USA

H. LECHNER, Graz, Austria

F. LIAO, Beijing, China

G.D.O. LOWE, Glasgow, UK

D.E. McMILLAN, Tampa, FL, USA

H.J. MEISELMAN, Los Angeles, CA, USA

G.B. NASH, Birmingham, UK

G. POTRON, Reims, France

M. RAMPLING, London, UK

R.J. RASIA, Rosario, Argentina

R.K. REED, Bergen, Norway

W.H. REINHART, Chur, Switzerland

P. SALDANHA, Lisbon, Portugal

H. SCHMID-SCHÖNBEIN, Aachen, Germany

T. SOMER, Helsinki, Finland

J.-L. WAUTIER, Paris, France

F.Y. ZHUANG, Beijing, China

PRODUCTION EDITOR: Doug Cherno, E-MAIL: D.CHERNO@ELSEVIER.COM.

CLINICAL HEMORHEOLOGY EXECUTIVE EDITORIAL OFFICE: Siegfried Witte, Executive Director, Medizinische Abteilung, Diakonissen-Krankenhaus, Diakonissenstr. 28, D-76199 Karlsruhe, Germany, FAX: +49 721 8893044

PUBLISHING, SUBSCRIPTION AND ADVERTISING OFFICES: Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A., E-MAIL ADDRESS: ESUK.USA@ELSEVIER.COM; or Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford, OX51GB, England.

PUBLISHED BIMONTHLY. Annual Institutional Subscription Rate (1995): North, Central and South America, US\$522.00, Rest of World £350.00. Sterling prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice.

Cover by L. Alcopley



Pergamon

Clinical Hemorheology, Vol. 14, No. 6, pp. 869-881, 1994
Copyright © 1994 Elsevier Science Ltd
Printed in the USA. All rights reserved
0271-5198/94 \$6.00 + .00

0271-5198(94)00060-3

CLINICAL HEMORHEOLOGY

VOLUME 14, NUMBER 1

JANUARY-FEBRUARY 1994

CONTENTS

- S. Witte and J.-F. Stoltz 1 Editorial
- S. Witte 3 Obituary: Hellmut Hartert (1918-1993)
- S. Witte 7 Obituary: Alexander Silberberg (1923-1993)
- Conference Communications*
- Proceedings of the First International and Eighth European Conference on Clinical Hemorheology, Vienna, Austria, 5-8 July 1993 - Part III*
- Free Session: Hemodilution*
- H.-P. Haring, P. Pohl, W. Schimetta, W. Pötzl and F. Aichner 11 Hydroxyethylstarch - influence of molar substitution on haemorheologic parameters: a clinical double blind study
- Symposium: Hemorheology in cerebrovascular disease*
- M.R. Boisseau, P. Dufourcq, M. Seigneur, M.F. Roudaut and A. Bertrand 19 Changes in cell behaviour during ischaemic cerebrovascular disease
- M. Walzl, H. Valetitsch, B. Walzl and H. Lechner 27 Improved cerebral blood flow in patients treated by a single heparin-induced extracorporeal LDL precipitation (HELP)
- Symposium: Plasmapheresis: HELP*
- M. Walzl, B. Walzl, G. Kleinert, G. Schied and H. Lechner 37 LDL-precipitation and its influence on haemorheology and clinical symptoms in acute stroke and cerebral multiinfarct disease
- B. Walzl, A. Haas, M. Walzl, J. Faulborn, G.E. Sochor, H. Eckhardt, J. Berglöff and H. Lechner 45 First experiences with heparin-induced extracorporeal LDL precipitation (HELP) in ocular microcirculatory disturbances
- Proceedings of the Eighth International Congress of Biorheology, Yokohama, Japan, 3-8 August 1992 - Part IV*
- Symposium: Erythropoietin: Hemorheology and Hemodynamics*
- N. Maeda and T. Shiga 53 Effect of recombinant human erythropoietin on blood rheology of rat
- Non-Conference Communications*
- Review Article*
- C. Zoukourian and J.-L. Wautier 63 Cellular abnormalities in diabetes mellitus as factors in vascular complications
- Papers*
- A. Muñoz, J. Uberos, A. Bonillo, A. Valenzuela, A. Puertas, E. Narbona, R. Sanchez and J.A. Molina 75 Plasma and internal erythrocyte viscosity in umbilical artery and vein of premature infants with and without acute asphyxia

M.F. Berthault, A. Othmane, J. Guillou, J.L. Counord, A. Ktorza and J. Dufaux	83	Hemorheological abnormalities in rats with experimental mild diabetes: improving effect of troxerutine and α -tocopherol
C.R. Welch, M.W. Rampling, M.A. Anwar, D.G. Talbert and C.H. Rodeck	93	Gestational reference ranges for fetal haemorheological parameters
J. F. Brun, I. Supparo, C. Fons, A. El Bouhmadi and A. Orsetti	105	Low values of blood viscosity and erythrocyte aggregation are associated with lower increases in blood lactate during submaximal exercise
H. Hammi, P. Perrotin, R. Guillet and M. Boynard	117	Determination of red blood cell aggregation in young and elderly subjects evaluated by ultrasound (Influence of dihydroergocryptine mesylate)
<i>Brief Communications</i>		
M. Mukherjee	127	Alpha-2-macroglobulin and coronary heart disease
M. Mukherjee	131	Correlation of mean corpuscular volume of red cells with membrane choline-phospholipid-to-amino-phospholipid ratio
S. Kleinschmidt and U.T. Seyfert	137	A diagnostic and therapeutic approach to heparin-associated thrombocytopenia (HAT)
<i>Dissertation Abstract</i>		
N.H. Schut	141	Rheological aspects in diabetic patients & renal transplant recipients
	145	<i>Announcement</i>
	146	Contents of <i>Biorheology</i> Volume 30, Numbers 3/4

CLINICAL HEMORHEOLOGY

VOLUME 14, NUMBER 2

MARCH-APRIL 1994

CONTENTS

S. Witte and J.-F. Stoltz	147	Editorial
<i>Review Article</i>		
J.G. Jones, R.A. Adams and S.-A. Evans	149	Bulk filtration through micropore membranes for analysing blood cell rheology in clinical research
<i>Conference Communications</i>		
<i>Proceedings of the First International and Eighth European Conference on Clinical Hemorheology, Vienna, Austria, 5-8 July 1993 – Part IV</i>		
<i>Symposium:</i>		
M.R. Boisseau, E. Mazoyer, L. Ripoll and L. Drouet	171	Hemorheologically active substances, their profile and clinical impact
<i>Symposium: Plasmapheresis: HELP</i>		
P. Lechner, M. Walzl and B. Walzl	181	The impact of H.E.L.P. on haemorheology in peripheral arterial disease

	<i>Free Session: Hemodilution</i>
F. Jung, J. Koscielny, C. Mrowietz, G. Pindur, H. Förster, W. Schimetta, H. Kiesewetter and E. Wenzel	189
	<i>Non-Conference Communications</i>
	<i>Papers</i>
E. Tozzi, M.G. Tozzi-Ciancarelli, C. Di Massimo, A. Mascioli, T. Gentile and F. de Matteis	203
A. Luquita, A. Dominighini, R. Rasia and M. Rasia	213
M. Mukherjee and A.P. Desai	223
P. Ruef, E.P. Zilow and O. Linderkamp	233
X. Wang and J.-F. Stoltz	237
P. Kent, G. Williams and R. C. Kester	245
M. Boynard, F. Ribier, R. Guillet, F. Driss, P. Perrotin, F. Gaudey, C. Pautou and B. Nalpas	255
H. Landgraf, D. Schulte-Huermann and A.M. Ehrly	263
M.V. Kulkarni and R.R. Puniyani	271
Wen Zong-yao, Tao Zu-lai, Ma Wei-yuan, Sun Da-gong and Li Tian-xun	279
G. Mchedlishvili	285
	<i>Brief Communication</i>
Submitted by Editor-in-Chief, J.-F. Stoltz	287
	<i>Letter to the Editors-in-Chief</i>
	Principle factors deranging blood rheological properties in microvessels
	<i>Abstracts</i>
	Abstracts of papers presented at the Congress of the French Society of Fundamental and Clinical Biorheology 3–4 June, 1993 San Malo, France
	<i>Announcements</i>
	299 17th World Congress of the International Union of Angiology London (UK) 3–7 April, 1995
	301 Royal College of Physicians of Edinburgh – Second International Symposium on Fibrinogen and Cardiovascular Disease 1–2 November, 1994
	302 Contents of <i>Biorheology</i> Volume 30, Numbers 5/6

CLINICAL HEMORHEOLOGY

VOLUME 14, NUMBER 3

MAY-JUNE 1994

CONTENTS

J.P. Isbister	305	<i>Review Article</i> Blood volume, hematocrit and hemorheology: The interrelationships
		<i>Non-Conference Communications Papers</i>
R.R. Puniyani, V.S. Agashe, H.S. Kudrimoti, A. Fernandez, S. Rao, R. Merchant and S. Phadke	321	Blood viscosity profiles in polycythemia: Neonatal polycythemia
K. Toth, T. Habon, I. Horvath, B. Mezey, I. Juricskay and Gy Mozsik	329	Hemorheological and hemodynamical parameters in patients with ischemic heart disease at rest and at peak exercise
W. Oder, B. Oder, H. Kollegger, J. Spatt, K. Zeiler, S. Aull, M. Mraz and P. Wessely	339	Hemorheologic dysfunction in analgesic-induced chronic headache? Results of a pilot study
V. Lipovac and M. Gavella	347	Rheological action of gangliosides on human erythrocytes
H. Kiesewetter, A. Birk, F. Jung and H. Radtke	355	Effects of felodipine on the arterial blood pressure and fluidity of blood in patients with arterial hypertension WHO stage I
D. Yova, M. Haritou and D. Koutsouris	369	Antagonistic effects of epinephrine and helium-neon (He-Ne) laser irradiation on red blood cells deformability
S.P.M. Crouch, E.M. Saihan and J. Fletcher	379	Effect of ingested pentoxifylline on the <i>ex vivo</i> neutrophil function of patients with varicose leg ulcers
G. Caimi, R. Lo Presti, M. Montana, B. Canino, G. Ventimiglia, A. Catania and A. Sarno	393	Platelet membrane fluidity, platelet membrane lipid pattern and platelet cytosolic Ca ²⁺ content in subjects with vascular atherosclerotic disease
A. Chabanel and Meyer M. Samama	401	Evaluation of a method to assess plasma viscosity: The falling ball viscometer
C. Allegra, A. Carlizza, A. Mari and R. Sarcinella	413	Long-term infusional and oral therapy with pentoxifylline in peripheral vasculopathy: A 3-year follow-up
A. Vayá, M. Martínez, V. Moreno and J. Aznar	419	<i>Letter to the Editors-in-Chief</i> Erythrocyte deformability in patients with primary hypertriglyceridemia
Submitted by D. Lerche	421	<i>Abstracts</i> Of presentations at the Euromech Colloquium 311 "Blood-Wall Interaction," 18-20 October 1993, Berlin, Germany

	<i>Announcements</i>
455	First China-France International Symposium of Biorheology
457	9th International Congress of Biorheology and 2nd International Conference on Clinical Hemorheology
459	XXII nd Annual Conference of the International Society on Oxygen Transport to Tissue
461	Contents of <i>Biorheology</i> Volume 31, Number 1

CLINICAL HEMORHEOLOGY**VOLUME 14, NUMBER 4****JULY-AUGUST 1994****CONTENTS***Review Article*

Liao Fu-long	463	Treatment of blood stasis syndrome and hemorheology
--------------	-----	--

Conference Communications

*Proceedings of the First International and Eighth
European Conference on Clinical Hemorheology –
Vienna, Austria, 5–8 July 1993 – Part V*

Symposium: Diabetic Hemorheology

D.E. McMillan	473	Blood viscosity and plasma proteins influencing it are increased in Type I diabetes in the DCCT
D.E. McMillan and J.I. Malone	481	Hemorheological effects of intensive diabetes management in the DCCT
Y. Missirlis and V. Kaleridis	489	Polymorphonuclear leukocyte deformability in Type II diabetes mellitus and in ageing

Symposium: Red Cell Aggregation

S. Chen, G. Barshtein, B. Gavish, Y. Mahler and S. Yedgar	497	Monitoring of red blood cell aggregability in a flow-chamber by computerized image analysis
S. Kawakami, Y. Isogai, J. Yamamoto, T. Maeda, S. Ikemoto and M. Kaibara	509	Rheological study on erythrocyte aggregation with special reference to ESR – Application to quick estimation of ESR value –
T. Murata	519	Theoretical analysis of flow properties of aggregating red cell suspensions in narrow horizontal tubes
M.W. Rampling and M.J. Pearson	531	Enzymatic degradation of the red cell surface and its effect on Rouleaux formation

CLINICAL HEMORHEOLOGY

VOLUME 14, NUMBER 4

JULY-AUGUST 1994

(Continued from outside back cover)

	<i>Non-Conference Communications Papers</i>
S.M. MacRury, S.E. Lennie, K.R. Paterson, C.G. Semple and G.D.O. Lowe	539 Deformability of leucocyte subpopulations in Type I (insulin-dependent) and Type II (non-insulin-dependent) diabetic patients
J.C. Ellory, S.J. Culliford, E.R. Horwitz, F.B.O. Mojiminiyi and J. Stuart	545 Oxpentifyline-induced inhibition of calcium entry into human erythrocytes
N. Uyesaka, S. Hasegawa, T. Nakamura, A.T. Hongo, A.N. Schechter and H. Shio	557 Pathophysiologic significance of mechanical fragility of red blood cells
S. Hasegawa, T. Nomura, M. Iino, H. Shio, A.N. Schechter and N. Uyesaka	571 Causal role of dense microspherocytes in the anemia of hereditary spherocytosis: Clinical importance of filterability measurements through 3- μ M pores
J. Uberos, A. Muñoz, A. Valenzuela, A. Molina, C. Ruiz and G. Galdo	585 Rheological behaviour of neonatal blood at term with or without polycythemia: A study in 0.38 mm diameter tubes
O.K. Başkurt, M. Edremitlioğlu and A. Temiz	591 <i>In vitro</i> effects of <i>in vivo</i> activated leukocytes on RBC filterability and lipid peroxidation
G. Caimi, R. Lo Presti, M. Montaña, B. Canino and A. Sarno	597 Vascular atherosclerotic disease: Evaluation of white blood cell rheology and metabolism after acute intravenous administration of defibrotide
M.R. Hardeman, P.T. Goedhart, J.G.G. Dobbe and K.P. Lettinga	605 Laser-assisted optical rotational cell analyser (L.O.R.C.A.); I. A new instrument for measurement of various structural hemorheological parameters
M.R. Hardeman, P.T. Goedhart and N.H. Schut	619 Laser-assisted optical rotational cell analyser (L.O.R.C.A.); II. Red blood cell deformability: Elongation index versus cell transit time
	<i>Book Review</i>
E. Fukada	631 Reports on Progress in Polymer Physics in Japan
	<i>Announcements</i>
	633 Euroconference ETRO
	635 IXth European Conference on Clinical Haemorheology
	636 Contents of <i>Biorheology</i> Volume 31, Number 2

CLINICAL HEMORHEOLOGY

VOLUME 14, NUMBER 5

SEPTEMBER-OCTOBER 1994

CONTENTS

Conference Communications

Proceedings of the First International and Eighth European Conference on Clinical Hemorheology – Vienna, Austria 5–8 July 1993 – Part VI

Symposium: Free Session – Gynecology and Neonatology

- | | | |
|--|-----|---|
| J.F. Brun, A. El Bouhmadi, P. Boulot,
O. Rousseau, F. Laffargue, J.L. Viala
and A. Orsetti | 637 | Evaluation of erythrocyte hyperaggregation in fetal blood drawn by cordocentesis as a marker of fetal diseases |
| J.F. Brun, P. Boulot, O. Rousseau,
A. El Bouhmadi, F. Laffargue, J.L. Viala
and A. Orsetti | 643 | Modifications of erythrocyte aggregation during labor and delivery |
| P.C. Buchan | 651 | Fetal déjà vu of adult disease – haemorheological associations between fetal intrauterine growth retardation and adult hypertension |
| P. Ruef and O. Linderkamp | 659 | Plastic deformation of erythrocyte membrane in full-term neonates and adults |

*Non-Conference Communications
Papers*

- | | | |
|---|-----|---|
| R.G. Yoa, C. Corda, J.R. Rapin, L. Santona,
H. Goudonnet, G. Rifle, A. Escousse,
R.C. Truchot and J. Mounie | 663 | Hemorheological benefits of omega-3 polyunsaturated fatty acids on erythrocyte deformability in renal transplanted patients |
| C.G. Gustavsson, S.U. Persson, H. Larsson
and S. Persson | 677 | Blood viscosity in relation to blood haemoglobin concentration in healthy subjects and in patients with different cardiovascular diseases |
| Md. A. Hussain, R.R. Puniyani and S. Kar | 685 | Quantification of blood viscosity using power law model in cerebrovascular accidents and high risk controls |
| M.A. Anwar and M.W. Rampling | 697 | Comparative hemorheology of five healthy, ethnically diverse groups: Results of a pilot study |
| F. Laghi Pasini, C. Frigerio, L. De Giorgi,
L. Domini, S. Peccati, P. Damiani, A. Acciavatti,
P.L. Capecci, N. Sodi, T. Provvedi, L. Volpi
and T. Di Perri | 709 | Effect of adenosine I.V. infusion on peripheral haemodynamics, haemorheology and platelet behaviour in man |
| W.J. Wong, H.H. Hu, Y.O. Luk and Y.K. Lo | 723 | The follow-up study of blood viscosity in the patients with acute ischemic stroke |

Dissertation Abstracts

- S. Persson 731 Erythrocyte deformability studied by viscometry and
filtrometry

Announcements

- 733 Call for sending in dissertations, book (chapters),
etc. — M.R. Hardeman
- 735 17th World Congress of the International Union
of Angiology (London 3–7 April 1995)
- 738 Contents of *Biorheology*
Volume 31, Number 3

CLINICAL HEMORHEOLOGY

VOLUME 14, NUMBER 6

NOVEMBER–DECEMBER 1994

CONTENTS*Review Article*

- G. Potron, P. Nguyêñ and B. Pignon 739 Fibrinogen, arterial risk factor, in clinical practice

*Non-Conference Communications
Papers*

- G.J. Streekstra, J.J. Zwaginga,
E.J. Nijhof, J.J. Sixma
and R.M. Heethaar 769 The relation between blood viscosity and plasma
viscosity in the nephrotic syndrome
- Fu-Zhong Qin and Rong-Rui Zhao 779 Effects of reduced red cell deformability on
coronary hemodynamics and cardiac function
- X. Wang and J.-F. Stoltz 789 Influence of non-Newtonian properties of blood on
the global transport of red blood cells
- V. Turchetti, C. De Matteis, F. Leoncini,
F. Picciolini, L. Trabalzini,
M. Guerrini, and S. Forconi 797 Action of Pentoxifylline on cytosolic calcium and
on the erythrocytic morphology during ageing
- J.F. Brun, J.P. Micallef and A. Orsetti 807 Hemorheologic effects of light prolonged exercise
- M.J. Navarro-Prigent, E. Rabetafika,
O. Bournier, P. Boivin and D. Dhermy 819 Effect of okadaic acid on the rheological
properties of human erythrocyte membranes
- S.U. Persson and P. Hedner 831 A filtrometric study on red blood cells after storage
in frozen form
- H. Lechner, R. Schmidt, B. Reinhart,
P. Grieshofer, M. Koch, F. Fazekas,
K. Niederkorn, S. Horner, A. Irmel and
W. Friedl 841 The Austrian stroke prevention study: Serum
fibrinogen predicts carotid atherosclerosis and white
matter disease in neurologically asymptomatic
individuals

Abstracts

- | | | |
|--------------------------|-----|---|
| Submitted by Shi Yong-De | 847 | '94 Chinese National Congress of Clinical Hemorheology and Medical Biophyco-Chemistry |
| Submitted by G. Jones | 855 | Abstracts of papers presented at the Meeting of the Royal Society Forum on Clinical Haemorheology |
| Submitted by S. Hasegawa | 861 | 17th Annual Meeting of the Japanese Society of Biorheology |

Announcements

- | | |
|-----|---|
| 865 | First Announcement of the 2nd International Conference on Medical Biorheology — Shanghai, China, 1995 — Satellite Conference of the 9th International Congress of Biorheology and 2nd International Conference on Clinical Hemorheology, Big Sky, Montana, U.S.A., 1995 |
| 867 | Contents and Author Index for Volume 14, 1994 |
| 883 | Contents of <i>Biorheology</i> Volume 31, Number 4 |

CLINICAL HEMORHEOLOGY**VOLUME 14, SUPPLEMENT 1****1994****MICROCIRCULATION AND MICROPHARMACOLOGY****CONTENTS**

- | | | |
|---|-----|--|
| M.R. Boisseau, <i>Guest Editor</i> | iii | Foreword — Microcirculation and micropharmacology: Towards a new concept |
| M. Seigneur, C. Closse, J. Constans, B. Lestage, P. Dufourcq, A. Pruvost, J. Amiral, C. Conri and M.R. Boisseau | S1 | Vascular endothelial cells during hypoxia |
| J.R. Domange, S. Bougaret and L. Yubero | S7 | Pharmacological studies of Cyclo 3 Fort and its constituents (Ruscus extract, hesperidin methyl chalcone, ascorbic acid): An up-to-date review |
| R. Baurain, G. Dom and A. Trouet | S15 | Protecting effect of Cyclo 3 Fort and its constituents for human endothelial cells under hypoxia |
| E. Bouskela and F.Z.G.A. Cyrino | S23 | Possible mechanisms for the effects of Ruscus extract on microvascular permeability and diameter |
| V.M. Miller, K. Rud and P. Gloviczki | S37 | Interactions of Ruscus-extract with endothelin-receptors in human varicose veins |

V. Wienert	S47	The measurement of capillary permeability using computer-aided capillary resistometry
C. Le Dévéhat, T. Khodabandehlou, M. Vimeux and M. Dougny	S53	The effects of Cyclo 3 Fort treatment on hemorheological disturbances during a provoked venous stasis in patients with chronic venous insufficiency
H. Kiesewetter, F. Jung, M. Jünger, U. Marx and J. Koscielny	S65	Chronic venous insufficiency: Only a macro- or also a microangiopathy?

- Acciavatti, A., 709
 Adams, R.A., 149
 Agashe, V.S., 321
 Aichner, F., 11
 Allegra, C., 413
 Amiral, J., S1
 Anwar, M.A., 93, 637
 Aull, S., 339
 Aznar, J., 419
 Barshtein, G., 497
 Başkurt, O.K., 591
 Baurain, R., S15
 Berglöff, J., 45
 Berthault, M.F., 83
 Bertrand, A., 19
 Birk, A., 355
 Boisseau, M.R., 19, 171, Siii, S1
 Boivin, P., 819
 Bonillo, A., 75
 Bougaret, S., S7
 Boulot, P., 637, 643
 Bourrier, O., 819
 Bouskela, E., S23
 Boynard, M., 117, 255
 Brun, J.F., 105, 637, 643, 807
 Buchan, P.C., 651
 Caimi, G., 393, 597
 Canino, B., 393, 597
 Capecci, P.L., 709
 Carlizza, A., 413
 Catania, A., 393
 Chabanel, A., 401
 Chen, S., 497
 Closse, C., S1
 Conri, C., S1
 Constans, J., S1
 Corda, C., 663
 Counord, J.L., 83
 Crouch, S.P.M., 379
 Culliford, S.J., 545
 Cyrino, F.Z.G.A., S23
 Da-gong, S., 279
 Damiani, P., 709
 De Giorgi, L., 709
 De Matteis, C., 797
 de Matteis, F., 203
 Desai, A.P., 223
 Dhermy, D., 819
 Di Massimo, C., 203
 Di Perri, T., 709
 Dobbe, J.G.G., 605
 Dom, G., S15
 Domange, J.R., S7
 Domini, L., 709
 Dominighini, A., 213
 Dougny, M., S53
 Driss, F., 255
 Drouet, L., 171
 Dufaux, J., 83
 Dufourcq, P., 19, S1
 Eckhardt, H., 45
 Edremitlioglu, M., 591
 Ehrly, A.M., 263
 El Bouhmadi, A., 105, 637, 643
 Ellory, J.C., 545
 Escousse, A., 663
 Evans, S.-A., 149
 Faulborn, J., 45
 Fazekas, F., 841
 Fernandez, A., 321
 Fletcher, J., 379
 Fons, C., 105
 Forconi, S., 797
 Förster, H., 189
 Friedl, W., 841
 Frigerio, C., 709
 Fu-long, L., 463
 Fu-Zhong, Q., 779
 Fukada, E., 631
 Galdó, G., 585
 Gaudéy, F., 255
 Gavella, M., 347
 Gavish, B., 497
 Gentile, T., 203
 Gloviczki, P., S37
 Goedhart, P.T., 605, 619
 Goudonnet, H., 663
 Grieshofer, P., 841
 Guerrini, M., 797
 Guillet, R., 117, 255
 Guillou, J., 83
 Gustavsson, C.G., 677
 Haas, A., 45
 Habon, T., 329
 Hammi, H., 117
 Hardeman, M.R., 605, 619
 Haring, H.-P., 11
 Haritou, M., 369
 Hasegawa, S., 557, 571, 861
 Hedner, P., 831
 Heethaar, R.M., 769
 Hongo, A.T., 557
 Horner, S., 841
 Horvath, I., 329
 Horwitz, E.R., 545
 Hu, H.H., 723
 Hussain, Md.A., 685
 Iino, M., 571
 Ikemoto, S., 509
 Irmller, A., 841
 Isbister, J.P., 305
 Isogai, Y., 509
 Jones, G., 855
 Jones, J.G., 149
 Jung, F., 355, 189, S65
 Jünger, M., S65
 Juricskay, I., 329
 Kaibara, M., 509
 Kalerdis, V., 489
 Kar, S., 685
 Kawakami, S., 509
 Kent, P., 245
 Kester, R.C., 245
 Khodabandehlou, T., S53
 Kiesewetter, H., 355, 189, S65
 Kleinert, G., 37
 Kleinschmidt, S., 137
 Koch, M., 841
 Kollegger, H., 339
 Koscielny, J., 189, S65
 Koutsouris, D., 369
 Ktorza, A., 83
 Kudrimoti, H.S., 321
 Kulkarni, M.V., 271
 Laffargue, F., 637, 643

- Laghi Pasini, F., 709
 Landgraf, H., 263
 Larsson, H., 677
 Le Dévéhat, C., S53
 Lechner, H., 27, 37, 45, 841
 Lechner, P., 181
 Lennie, S.E., 539
 Leoncini, F., 797
 Lerche, D., 421
 Lestage, B., S1
 Lettinga, K.P., 605
 Linderkamp, O., 233, 659
 Lipovac, V., 347
 Lo Presti, R., 393, 597
 Lo, Y.K., 723
 Lowe, G.D.O., 539
 Luk, Y.O., 723
 Luquita, A., 213
 MacRury, S.M., 539
 Maeda, N., 53
 Maeda, T., 509
 Mahler, Y., 497
 Malone, J.I., 481
 Mari, A., 413
 Martínez, M., 419
 Marx, U., S65
 Mascioli, A., 203
 Mazoyer, E., 171
 Mcchedlishvili, G., 285
 McMillan, D.E., 473, 481
 Merchant, R., 321
 Mezey, B., 329
 Micallef, J.P., 807
 Miller, V.M., S37
 Missirlis, Y., 489
 Mojiminiyi, F.B.O., 545
 Molina, A., 585
 Molina, J.A., 75
 Montana, M., 393, 597
 Moreno, V., 419
 Mounie, J., 663
 Mozsik, Gy., 329
 Mraz, M., 339
 Mrowietz, C., 189
 Mukherjee, M., 127, 131, 223
 Muñoz, A., 75, 585
 Murata, T., 519
 Nakamura, T., 557
 Nalpas, B., 255
 Narbona, E., 75
 Navarro-Prigent, M.J., 819
 Nguyêñ, P., 739
 Niederkorn, K., 841
 Nijhof, E.J., 769
 Nomura, T., 571
 Oder B., 339
 Oder, W., 339
 Orsetti, A., 105, 637, 643, 807
 Othmane, A., 83
 Paterson, K.R., 539
 Pautou, C., 255
 Pearson, M.J., 531
 Pecchi, S., 709
 Perrotin, P., 117, 255
 Persson, S., 677, 731
 Persson, S.U., 677, 831
 Phadke, S., 321
 Picciolini, F., 797
 Pignon, B., 739
 Pindur, G., 189
 Pohl, P., 11
 Pölz, W., 11
 Potron, G., 739
 Provvedi, T., 709
 Pruvost, A., S1
 Puertas, A., 75
 Puniyani, R.R., 271, 321, 685
 Rabetafika, E., 819
 Radtke, H., 355
 Rampling, M.W., 93, 531, 697
 Rao, S., 321
 Rapin, J.R., 663
 Rasia, M., 213
 Rasia, R., 213
 Reinhart, B., 841
 Ribier, F., 255
 Rifle, G., 663
 Ripoll, L., 171
 Rodeck, C.H., 93
 Roudant, M.F., 19
 Rousseau, O., 637, 643
 Rud, K., S37
 Ruef, P., 233, 659
 Ruiz, C., 585
 Saihan, E.M., 379
 Samama, M.M., 401
 Sanchez, R., 75
 Santona, L., 663
 Sarcinella, R., 413
 Sarno, A., 393, 597
 Schechter, A.N., 557, 571
 Schied, G., 37
 Schimetta, W., 11, 189
 Schmidt, R., 841
 Schulte-Huermann, D., 263
 Schut, N.H., 141, 619
 Seigneur, M., 19, S1
 Semple, C.G., 539
 Seyfert, U.T., 137
 Shiga, T., 53
 Shio, H., 557, 571
 Sixma, J.J., 769
 Sochor, G.E., 45
 Sodi, N., 709
 Spatt, J., 339
 Stoltz, J.-F., 1, 147, 237, 287, 879
 Streekstra, G.J., 769
 Stuart, J., 545
 Supparo, I., 105
 Talbert, D.G., 93
 Temiz, A., 591
 Tian-xun, L., 279
 Toth, K., 329
 Tozzi, E., 203
 Tozzi-Ciancarelli, M.G., 203
 Trabalzini, L., 797
 Trouet, A., S15
 Truchot, R.C., 663
 Turchetti, V., 797
 Uberos, J., 75, 585
 Uyesaka, N., 557, 571
 Valenzuela, A., 75, 585
 Valetitsch, H., 27
 Vayá, A., 419
 Ventimiglia, G., 393

- Viala, J.L., 637, 643
Vimeux, M., S53
Volpi, L., 709
Walzl, B., 27, 37, 45, 181
Walzl, M., 27, 37, 45, 181
Wang, X., 237, 709
Wautier, J.-L., 63
Wei-yuan, M., 279
Welch, C.R., 93
Wenzel, E., 189
Wessely, P., 339
Wienert, V., S47
Williams, G., 245
Witte, S., 1, 3, 7, 147
Wong, W.J., 723
Yamamoto, J., 509
Yedgar, S., 497
Yoa, R.G., 663
Yong-De, S., 847
Yova, D., 369
Yubero, L., S7
Zeiler, K., 339
Zhao, R.R., 779
Zilow, E.P., 233
Zong-yao, W., 279
Zoukourian, C., 63
Zu-lai, T., 279
Zwaginga, J.J., 769