Published in Association with the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)

CCLM is the official journal of the Association of Clinical Biochemists in Ireland (ACBI), the Austrian Society of Laboratory Medicine and Clinical Chemistry (OGLMKC), the German Society for Clinical Chemistry and Laboratory Medicine (DGKL), the Hungarian Society of Laboratory Medicine (MLDT), the Royal Belgian Society of Laboratory Medicine (RBSLM), the Italian Society of Clinical Biochemistry and Clinical Molecular Biology (SIBioC), the Portuguese Society of Clinical Chemistry, Genetics and Laboratory Medicine (SPML), the Slovenian Association for Clinical Chemistry and Laboratory Medicine (SZKKLM) and the Spanish Society of Laboratory Medicine (SEQC). CCLM is affiliated with the Australasian Association of Clinical Biochemists (AACB) and Société Française de Biologie Clinique (SFBC).

EDITOR-IN-CHIEF

Mario Plebani
Padova, Italy

ASSOCIATE EDITORS

Giuseppe Lippi
Reviews Editor
Verona, Italy
Philippe Gilly
Reims, France
Ronda Greaves
Melbourne, Australia
Karl J. Lackner
Mainz, Germany
Bohuslav Melichar
Olomouc, Czech Republic
Peter Schattmann
Jena, Germany
Pan Shiyang
Nanjing, P.R. China

EDITORIAL BOARD

Ivan Brandslund
Odense, Denmark
Christoph Buchta
Vienna, Austria
Janne Cadamuro
Salzburg, Austria
Etienne Cavalier
Liege, Belgium
Weiqi Cui
Beijing, P.R. China
Vincent De Guire
Montreal, Canada
Vincent Delatour
Paris, France
Emmanuel Favaloro
Westmead, Australia
Julien Favresse,
Brussels, Belgium
Pilar Fernandez-Calle
Madrid, Spain
João Tiago Guimarães
Porto, Portugal
Liam Heaney
Loughborough, UK
Brandon M. Henry,
Cincinnati, OH, USA
Markus Herrmann
Graz, Austria
Martin Hersberger
Zurich, Switzerland
Johannes J.M.L. Hoffmann
Nuenen, Netherlands
Zhi-De Hu
Hohhot, P.R. China
Aamir Ijaz
Mirpur, Pakistan

DE GRUYTER

Berend Isermann
Leipzig, Germany
Joannes F.M. Jacobs,
Nijmegen, Netherlands
Petr Jarolim
Boston, MA, USA
Graham Jones
Darlinghurst, NSW, Australia
Dehrecken, Hungary
Peter Kvasak
Toronto, Canada
Magdalena Krintus
Bydgoszcz, Poland
Vathany Kulasingam
Toronto, ON, Canada
Leslie Charles Lai
Kuala Lumpur, Malaysia
Ivana Lapić,
Zagreb, Croatia
Michael Laposata
Galveston, TX, USA
Nicholas E. Larkey,
Charlottesville, VA, USA
Tze Ping Lo
Singapore
Konstantinos Makris
Athens, Greece

David Meyre
Hamilton, Canada
Yesim Ozarda
Bursa, Turkey
Tomris Özen
Antalya, Turkey
Andrea Padoan
Padova, Italy
Vladimir Palicka
Hradec Králové,
Czech Republic
Geraldo Picheth
Curitiba, Brazil
Ted E. Schutzbank,
San Diego, CA, USA
Cord Spreckelsen,
Jena, Germany
Grazyna Sypniewska
Bydgoszcz, Poland
Michael Vogeser
Munich, Germany
Maria Alice V. Willrich
Rochester, MN, USA
Annalise E. Zemlin
Cape Town, South Africa

MANAGING EDITOR

Heike Jahnke
Berlin, Germany
CCLM is the official journal of the Association of Clinical Biochemists in Ireland (ACBI), the Austrian Society of Laboratory Medicine and Clinical Chemistry (ÖGLMKC), the German Society for Clinical Chemistry and Laboratory Medicine (DGKL), the Hungarian Society of Laboratory Medicine (MLDT), the Royal Belgian Society of Laboratory Medicine (RBSLM), the Italian Society of Clinical Biochemistry and Clinical Molecular Biology (SIBioC), the Portuguese Society of Clinical Chemistry, Genetics and Laboratory Medicine (SPML), the Slovenian Association for Clinical Chemistry and Laboratory Medicine (SZKKLM) and the Spanish Society of Laboratory Medicine (SEQC). CCLM is affiliated with the Australasian Association of Clinical Biochemistry and Laboratory Medicine (AACB) and Société Française de Biologie Clinique (SFBC).

The publisher, together with the authors and editors, has taken great pains to ensure that all information presented in this work (programs, applications, amounts, dosages, etc.) reflects the standard of knowledge at the time of publication. Despite careful manuscript preparation and proof correction, errors can nevertheless occur. Authors, editors and publisher disclaim all responsibility for any errors or omissions or liability for the results obtained from use of the information, or parts thereof, contained in this work.

The citation of registered names, trade names, trademarks, etc. in this work does not imply, even in the absence of a specific statement, that such names are exempt from laws and regulations protecting trademarks etc. and therefore free for general use.

ISSN 1434-6621 • e-ISSN1437-4331 • CODEN CCLMFW

All information regarding notes for contributors, subscriptions, Open access, back volumes and orders is available online at www.degruyter.com/cclm.

RESPONSIBLE EDITOR(S) Prof. Dr. Mario Plebani, Università di Padova, Dipartimento di Medicina di Laboratorio, Azienda Ospedaliera di Padova, Via Nicolo Giustiniani 2, 35131 Padova, Italy. Tel.: +390 (0)49 821 2792, Fax: +390 (0)49 663 240, e-mail: mario.plebani@unipd.it

PUBLISHER Walter de Gruyter GmbH, Berlin/Boston, Genthiner Str. 13, 10785 Berlin, Germany

JOURNAL COORDINATOR Heike Jahnke, De Gruyter, Genthiner Str. 13, 10785 Berlin, Germany, Tel.: +49 (0)30 260 05 – 220, Fax: +49 (0)30 260 05 – 325, e-mail: heike.jahnke@degruyter.com

ADVERTISEMENTS e-mail: anzeigen@degruyter.com

© 2024 Walter de Gruyter GmbH, Berlin/Boston, Germany

TYPESETTING TNQ Technologies, Chennai, India

PRINTING Franz X. Stückle Druck und Verlag e.K., Ettenheim

COVER ILLUSTRATION Research lab © Eisenhans. Permission to use the image on the cover granted by Fotolia LLC.
Contents

Editorial

Aldo Clerico, Martina Zaninotto and Mario Plebani
Rapid rule-in and rule-out protocols of acute myocardial infarction using hs-cTnI and hs-cTnT methods — 213
Refers to article on p 353

Reviews

Andrew C. Don-Wauchope, Karina Rodriguez-Capote, Ramy Samir Assaad, Seema Bhargava and Annalise E. Zemlin
A guide to conducting systematic reviews of clinical laboratory tests — 218

Maria Salinas, Maite López-Garrigós, Emilio Flores and Carlos Leiva-Salinas
Improving diagnosis and treatment of hypomagnesemia — 234

Opinion Paper

Mauro Panteghini
Documenting and validating metrological traceability of serum alanine aminotransferase measurements: a priority for medical laboratory community for providing high quality service in hepatology — 249

EFLM Paper

Etienne Cavalier, Konstantinos Makris, Oytun Portakal, Ana Nikler, Pradip Datta, Tomas Zima and Pierre Delanaye for the EFLM Task Group on CKD
Assessing the status of European laboratories in evaluating biomarkers for chronic kidney diseases (CKD) and recommendations for improvement: insights from the 2022 EFLM Task Group on CKD survey — 253

General Clinical Chemistry and Laboratory Medicine

Bruno Mario Cesana and Paolo Antonelli
Bland and Altman agreement method: to plot differences against means or differences against standard? An endless tale? — 262

Joséphine Vasse, Audrey Lassartesse, Oriane Marmontel, Sybil Charrière, Caroline Bouveyron, Nathanaël Marrié, Philippe Moulin and Mathilde Di Filippo
Assessment of three equations to calculate plasma LDL cholesterol concentration in fasting and non-fasting hypertriglyceridemic patients — 270

Giorgia Bianchi, Erika Frusciante, Giulia Colombo, Ilenna Infusino, Elena Aloisio and Mauro Panteghini
Validation of metrological traceability of the new generation of Abbott Alinity alkaline phosphatase assay — 280

Quality assurance programs for vitamin A and E in serum: are we doing enough to assess laboratory performance? — 288

Niklas Kehl, Arne Gessner, Renke Maas, Martin F. Fromm and R. Verena Taudte
A supervised machine-learning approach for the efficient development of a multi method (LC-MS) for a large number of drugs and subsets thereof: focus on oral antitumor agents — 293

Eakachai Prompetchara, Chalisa Parnsamut, Nathawit Wangviwat, Patrawadee Pitakpolrat, Kwanlada Chaiwong, Orakarn Limpornpuukdee, Surapat Tanticharoenkarn and Chutitorn Ketloy
Performance evaluation of alternate ESR measurement method using BC-780 automated hematology analyzer: a comparison study with the Westergren reference method — 303

Alejandra Comins-Boo, Fernando Pérez-Pla, Juan Irure-Ventura, Marcos López-Hoyos, Lydia Blanco-Peris, María del Carmen Martín Alonso and David San Segundo Arribas
Total error in lymphocyte subpopulations by flow cytometry-based in state of the art using Spanish EQAS data — 312
Letters to the Editor

Eleftherios P. Diamandis
Chatbot GPT can be grossly inaccurate — e25

Gregory J. Eisinger, Wissam Osman, Evan R. Prather,
Mark W. Julian, Mikhail A. Gavrulin, Elliott D. Crouser and
Mark D. Wewers
Blood collection in heparin vs. EDTA results in an
inflammogram-independent increase in monocyte
distribution width at 4 h — e26

Nora Alicia Guldhaug, Eirik Åsen Røys, Kristin Viste,
Per Medbøe Thorsby, Marit Sverresdotter Sylte,
Janniche Torsvik, Heidi Strand, Bashir Alouf, Michael Marber,
Torbjørn Omland and Kristin Moberg Aakre
Week-to-week within-subject and between-subject
biological variation of copeptin — e29

Fakher Rahim
The effect of unintended shortage in technical resources
on the quality of endpoint clinical laboratory
diagnosis — e34

Catharina Gerhards, Osman Eviyaoglu, Volker Ast and
Michael Neumaier
Epigenetic signatures of cfDNA enable a topological
assignment of tissue damage — e37

Mohamed Mokhtar Khelil
Six Sigma driven QC in antibody testing for infectious
diseases — e40

Priscilla Di Deo, Chiara Vantaggiato, Adriana Di Modugno,
Debora Licari, Pier Francesco Savina, Arianna Zaglani,
Cristina Viganò, Gabriella Grimaldi, Antonio Frassanito,
Tommaso Lettera, Paola De Corato, Massimiliano Ammirabile,
Chiara Ferraris Fusarini, Federica De Liso, Alessio Marengnani,
Iris Silvani, Tito Paolo Simone Taverriti, Ferruccio Ceriotti and
Matteo Vidal
Extensive analytical evaluation of the performances of the
new DiaSys PCT assay and comparison with Elecsys B·R·A·
H·M·S PCT test on Roche Cobas and B·R·A·H·M·S PCT-
sensitive Kryptor — 344

Thomas Masetto and Matthias Grimmler
Comment to: Extensive analytical evaluation of the
performances of the new DiaSys PCT assay and
comparison with Elecsys B·R·A·H·M·S PCT test on Roche
Cobas and B·R·A·H·M·S PCT-sensitive Kryptor — e48

Cardiovascular Diseases

Ling Li, Xin Shu, Litao Zhang, Ao Xu, Juan Yang, Yisha Jing,
Hui Wang and Zhenlu Zhang
Evaluation of the analytical and clinical performance of a
new high-sensitivity cardiac troponin I assay: hs-cTnI
(CLIA) assay — 353

Rasmus Bo Hasselbalch, Bashir Alouf, Jonas Henrik Kristensen,
Liam S. Couch, Thomas E. Kaier, Ture Lange Nielsen,
Louis Lind Plesner, Nina Strandkjær, Morten Schou,
Casper Rydahl, Jens P. Goetze, Henning Bundgaard,
Michael Marber and Kasper Karmark Iversen
Hemodialysis and biomarkers of myocardial infarction – a
cohort study — 361

Online Only Content

issue-files/cclm.2024.62.issue-2.xml
Julian H. Barth
Evaluation of serum cortisol measurement by Ortho Vitro after stimulation by ACTH or insulin hypoglycaemia — e51

Miaochan Wang, Yujiao Jin and Aifang Xu
Diagnostic and prognostic value of quantitative detection of antimitochondrial antibodies subtype M2 using chemiluminescence immunoassay in primary biliary cholangitis — e53

Hans-Wolfgang Klafki, Oliver Wirths, Olaf Jahn, Barbara Morgado, Hermann Esselmann and Jens Wiltfang