

CHIEF EDITORS

Anh Tuan Dinh-Xuan
Dept of Cardiorespiratory
Medicine,
Cochin Hospital,
University Paris Descartes,
27, rue du faubourg
Saint-Jacques,
75014 Paris,
France
Tel: 33 158412341
Fax: 33 158412345
E-mail: erj.chief-editors@ersnet.org

Vito Brusasco
Dept of Internal Medicine,
Medical School,
University of Genoa,
viale Benedetto XV, 6,
16132 Genoa,
Italy
Tel: 39 0103537690
Fax: 39 0103537690
E-mail: erj.chief-editors@ersnet.org

ASSISTANT TO THE CHIEF EDITORS

Sy Duong-Quy
Tel: 33 158411942 Fax: 33 158412345
E-mail: sy.duong-quy@cch.aphp.fr

PUBLICATIONS OFFICE

Managing Editors: **Elin Reeves** and **Rachel White**
442 Glossop Road, Sheffield,
S10 2PX, UK
Tel: +44 114 267 2860 Fax: +44 114 266 5064
E-mail: elin.reeves@ersj.org.uk/rachel.white@ersj.org.uk

ASSOCIATE EDITORS

N. Ambrosino

Pisa, Italy

I. Annesi-Maesano

Paris, France

J.L. Black

Sydney, Australia

P. Chanez

Marseille, France

V. Cottin

Lyon, France

L.M. Fabbri

Modena, Italy

R. Farré

Barcelona, Spain

U. Frey

Basel, Switzerland

P. Hiemstra

Leiden, the Netherlands

M.M. Hoepfer

Hanover, Germany

M. Humbert

Clamart, France

S. Kawut

Philadelphia, USA

P. Lévy

Grenoble, France

G.B. Migliori

Tradate, Italy

J. Müller-Quernheim

Freiburg, Germany

R. Naeije

Brussels, Belgium

M.I. Polkey

London, UK

G. Raghu

Seattle, USA

M. Saetta

Padova, Italy

J-P. Sculier

Brussels, Belgium

F. Sériès

Quebec City, Canada

P.D. Sly

Brisbane, Australia

J.B. Soriano

Bunyola, Spain

A. Torres

Barcelona, Spain

P.E. Van Schil

Edegem, Belgium

T. Welte

Hanover, Germany

M.A. Woodhead

Manchester, UK

S.G. Zakyntinos

Athens, Greece

ADVISORS

P-Y. Brillet

Bobigny, France

Radiology

A. Kettaneh

Paris, France

Statistics

S. Suissa

Montreal, Canada

Methodology

INTERNATIONAL ADVISORY BOARD

M.G. Belvisi

London, UK

E. Berglund

Gothenburg, Sweden

C. Brambilla

Grenoble, France

P.M.A. Calverley

Liverpool, UK

E. Canalis

Barcelona, Spain

U. Costabel

Essen, Germany

M. Decramer

Leuven, Belgium

R. Djukanovic

Southampton, UK

O. Eickelberg

Munich, Germany

S. Ewig

Bochum, Germany

P.N. Le Souëf

Perth, Australia

C.E. Mapp

Ferrara, Italy

E. Michelakis

Edmonton, Canada

B. Nemery

Leuven, Belgium

P. Palange

Rome, Italy

K.F. Rabe

Kiel, Germany

R. Rodriguez-Roisin

Barcelona, Spain

A.M.W.J. Schols

Maastricht, the Netherlands

N. Siafakas

Heraklion, Greece

A.K. Simonds

London, UK

P.J. Sterk

Amsterdam, the Netherlands

N.S. Zhong

Guangzhou, China



CONTENTS

VOLUME 39 / NUMBER 2 / FEBRUARY 2012

EDITORIALS

- 231 Pulmonary vascular responses to exercise: a haemodynamic observation**
R. Saggat, G.D. Lewis, D.M. Systrom, H.C. Champion, R. Naeije and R. Saggat
- 235 Seeking the right targets: gene therapy advances in pulmonary arterial hypertension**
R.D. Machado
- 238 Rhinoviruses: markers of, or causative for, recurrent wheeze and asthma?**
E. Kieninger and N. Regamey
- 240 Alveolar epithelial type II cells from embryonic stem cells: knights in shining armour?**
H. Fehrenbach
- 242 Silent gastro-oesophageal reflux and microaspiration in IPF: mounting evidence for anti-reflux therapy?**
G. Raghu and K.C. Meyer

ORIGINAL ARTICLES

Environmental lung disease

- 246 Airways changes related to air pollution exposure in wheezing children**
P.C. Martins, J. Valente, A.L. Papoila, I. Caires, J. Araújo-Martins, P. Mata, M. Lopes, S. Torres, J. Rosado-Pinto, C. Borrego, I. Annesi-Maesano and N. Neuparth

Smoking-related disorders

- 254 Aerobic exercise attenuates pulmonary injury induced by exposure to cigarette smoke**
A.C. Toledo, R.M. Magalhaes, D.C. Hizume, R.P. Vieira, P.J.C. Biselli, H.T. Moriya, T. Mauad, F.D.T.Q.S. Lopes and M.A. Martins

COPD

- 265 Tiotropium improves walking endurance in COPD**
M-E. Bédard, C. Brouillard, V. Pepin, S. Provencher, J. Milot, Y. Lacasse, P. Leblanc and F. Maltais
- 272 Trajectories of endurance activity following pulmonary rehabilitation in COPD patients**
J.E. Soicher, N.E. Mayo, L. Gauvin, J.A. Hanley, S. Bernard, F. Maltais and J. Bourbeau

Asthma

- 279 Mometasone furoate/formoterol reduces asthma deteriorations and improves lung function**
E.O. Meltzer, P. Kuna, H. Nolte, A.S. Nayak and C. LaForce on behalf of the P04073 Study Investigators
- 290 Home telemonitoring (forced expiratory volume in 1 s) in children with severe asthma does not reduce exacerbations**
A. Deschildre, L. Béghin, J. Salleron, C. Iliescu, C. Thumerelle, C. Santos, A. Hoorelbeke, M. Scalbert, G. Pouessel, M. Gnansounou, J-L. Edmé and R. Matran

Cystic fibrosis

- 297 Lack of an exaggerated inflammatory response on virus infection in cystic fibrosis**
E. Kieninger, M. Vareille, B.S. Kopf, F. Blank, M.P. Alves, F.M. Gister, P. Latzin, C. Casaulta, T. Geiser, S.L. Johnston, M.R. Edwards and N. Regamey

ORIGINAL ARTICLES (CONT.)

Sleep-related disorders

- 305 Effect of an ambulatory diagnostic and treatment programme in patients with sleep apnoea**
A.L. Andreu, E. Chiner, J.N. Sancho-Chust, E. Pastor, M. Llombart, E. Gomez-Merino, C. Senent and F. Barbé

Pulmonary vascular disease

- 313 The association between resting and mild-to-moderate exercise pulmonary artery pressure**
K. Whyte, S. Hoette, P. Herve, D. Montani, X. Jaïs, F. Parent, L. Savale, D. Natali, D.S. O'Callaghan, G. Garcia, O. Sitbon, G. Simonneau, M. Humbert and D. Chemla
- 319 Pulmonary vascular resistances during exercise in normal subjects: a systematic review**
G. Kovacs, A. Olschewski, A. Berghold and H. Olschewski
- 329 Targeted gene delivery of *BMPR2* attenuates pulmonary hypertension**
A.M. Reynolds, M.D. Holmes, S.M. Danilov and P.N. Reynolds

Pulmonary fibrosis

- 344 Prevalence of hiatal hernia by blinded multidetector CT in patients with idiopathic pulmonary fibrosis**
I. Noth, S.M. Zangan, R.V. Soares, A. Forsythe, C. Demchuk, S.M. Takahashi, S.B. Patel, M.E. Strek, J.A. Krishnan, M.G. Patti and H. MacMahon
- 352 Bronchoalveolar lavage pepsin in acute exacerbation of idiopathic pulmonary fibrosis**
J.S. Lee, J.W. Song, P.J. Wolters, B.M. Elicker, T.E. King Jr, D.S. Kim and H.R. Collard
- 359 Titrated oxygen requirement and prognostication in idiopathic pulmonary fibrosis**
J.L. Hook, S.M. Arcasoy, D. Zimmel, M.N. Bartels, S.M. Kawut and D.J. Lederer

Lung cancer

- 366 Nomogram to predict the presence of *EGFR* activating mutation in lung adenocarcinoma**
N. Girard, C.S. Sima, D.M. Jackman, L.V. Sequist, H. Chen, J.C-H. Yang, H. Ji, B. Waltman, R. Rosell, M. Taron, M.F. Zakowski, M. Ladanyi, G. Riely and W. Pao
- 373 Endobronchial ultrasound-guided lymph node biopsy with transbronchial needle forceps: a pilot study**
F.J.F. Herth, H. Schuler, D. Gompelmann, N. Kahn, S. Gasparini, A. Ernst, M. Schuhmann and R. Eberhardt

Exhaled biomarkers

- 378 Reference values of exhaled nitric oxide in healthy Asian children aged 5 to 18 years**
T-C. Yao, W-I. Lee, L-S. Ou, L-C. Chen, K-W. Yeh and J-L. Huang for the PATCH Study Group

Dietary factors and lung function

- 385 Dietary factors and lung function in the general population: wine and resveratrol intake**
M. Siedlinski, J.M.A. Boer, H.A. Smit, D.S. Postma and H.M. Boezen

Paediatric lung disease

- 392 Malacia, inflammation and bronchoalveolar lavage culture in children with persistent respiratory symptoms**
F. De Baets, I. De Schutter, C. Aarts, F. Haerynck, S. Van daele, E. De Wachter, A. Malfroot and P. Schelstraete

EUROPEAN RESPIRATORY *journal*

AIMS & SCOPE

The European Respiratory Journal (ERJ), the official Journal of the European Respiratory Society, publishes, in the English language, clinical and experimental work dealing with all aspects of respiratory medicine. In addition to original material, the *ERJ* prints Editorials and Reviews, as well as Technical notes, Letters and Correspondence.

This Journal is abstracted/indexed in: Ad Referendum, ADONIS, Biological Abstracts/BIOSIS, Chemical Abstracts, Current Contents: Life Sciences, Current Contents: Clinical Medicine, Elsevier BIOBASE/Current Awareness in Biological Sciences, EMBASE/Excerpta Medica, Index Medicus/MEDLINE, Medical Documentation Service, Research Alert, Science Citation Index, SciSearch, SIIIC Data Base and CABI Global Health.

SUBSCRIPTIONS

ERJ is published monthly by the European Respiratory Society (ERS). Twelve issues are published annually in two volumes of six issues each. The volumes for 2012 are Volumes 39 and 40.

Subscription rates for institutions (Volumes 39 & 40, 2012): £673.00 online only, £794.00 print and online; US\$1,278.00 online only, US\$1,508.00 print and online in North America. Subscription rates include air economy postage. Subscriptions are payable in advance.

Subscribers within the European Union must provide their VAT (Value Added Tax) number or add VAT to the subscription rate at the rate prevailing in their own country.

Subscriptions are managed on behalf of the ERS by: *Maney Publishing, Suite 1C, Joseph's Well, Hanover Walk, Leeds LS3 1AB, UK (fax: +44 (0)113 386 8178; E-mail: subscriptions@maney.co.uk) or: Maney Publishing North America, 875 Massachusetts Avenue, 7th Floor, Cambridge, MA 02139, USA (tel: (toll-free) +1 (0)866 297 5154; fax: +1 (0)617 354 6875; E-mail: maney@maneyusa.com)*. All orders, payments, and claims for missing issues should be sent to Maney Publishing or to any subscription agent.

ONLINE ACCESS

All subscribers have online access to the full text of each issue as part of their subscription. The online version is available to members via www.ersnet.org. Institutional subscribers can access online through HighWire at www.erj.ersjournals.com

Members of the ERS receive the *ERJ* as part of their membership.

INSTRUCTIONS TO AUTHORS

Before submitting an article to the *ERJ*, please read and carefully follow the instructions to authors, which are available at www.erj.ersjournals.com

All manuscripts must be submitted electronically using the online submission system at <http://mc.manuscriptcentral.com/erj>

If you experience problems, please contact the **Submission Helpline direct on +44 (0) 114 2672864 or contact Gill Archer (gill.archer@ersj.org.uk)** the manuscript central coordinator.

All *ERJ* business matters should be addressed to: Kay Sharpe, European Respiratory Society Publications Office, 442 Glossop Road, Sheffield, S10 2PX, UK. Fax: +44 (0) 114 266 5064. E-mail: admin@ersj.org.uk

EUROPEAN RESPIRATORY *journal*

REVIEWERS

A full list of reviewers is available online at www.erj.ersjournals.com

EDITORIAL TEAM

Fiona Marks
Elin Reeves
Alyson Adam
Rachel White
Matthew Broadhead
Neil Bullen
David Sadler

Catherine Pumphrey
Jonathan Hansen
Victoria Morton
Claire Turner
Lee Dodd
Sarah Hill

Past Chief Editors: J-C. Yernault†; E. Berglund, Gothenburg, Sweden; P. Vermeire†; U. Costabel, Essen, Germany; M. Decramer, Leuven, Belgium; P.J. Sterk and K.F. Rabe, Amsterdam, the Netherlands and Kiel, Germany.

ENVIRONMENTAL STATEMENT

The publisher ensures that the text paper and cover board used have met acceptable environmental accreditation standards.

For all enquiries concerning advertising or marketing please e-mail marketing@ersj.org.uk

All permission requests should be sent via the ERS website at <http://ersjournals.com/site/misc/permissions.xhtml>

Reprint and translation enquiries should be sent to admin@ersj.org.uk

© 2012 ERS. Authorisation to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted for libraries and other users registered with the Copyright Clearance Center (CCC). Please go to www.copyright.com or phone USA (978) 750 8400. UK customers should go to www.cla.co.uk. All other rights, including microfilm, electronic and/or copying reserved.

European Respiratory Journal USPS#023-615 is published monthly for \$268.00 periodicals postage paid at Folcroft, PA. POSTMASTER: Please send address changes to La Poste, P.O. Box 202, Folcroft, PA, 19032. Typesetting by H. Charlesworth & Co. Ltd. Printed in UK by Latimer Trend & Co. Ltd.

"The advertiser shall be liable for the content of any of its advertisements published according to its instructions. The advertiser shall indemnify and hold harmless the European Respiratory Society against and from any and all claims, damages, liabilities, costs and expenses whatsoever, including reasonable counsel fees, arising from the content of any of its advertisements."

ORIGINAL ARTICLES (CONT.)

- 396 Rhinovirus bronchiolitis and recurrent wheezing: 1-year follow-up**
F. Midulla, A. Pierangeli, G. Cangiano, E. Bonci, S. Salvadei, C. Scagnolari, C. Moretti, G. Antonelli, V. Ferro and P. Papoff

- CME article 403 Rapid early weight gain is associated with wheeze and reduced lung function in childhood**
A.C. van der Gugten, M. Koopman, A.M.V. Evelein, T.J.M. Verheij, C.S.P.M. Uiterwaal and C.K. van der Ent

Lung cell biology

- 411 Aspergillus fumigatus conidia induce interferon- β signalling in respiratory epithelial cells**
C. Beisswenger, C. Hess and R. Bals

- 419 Cigarette smoke impairs airway epithelial barrier function and cell-cell contact recovery**
I.H. Heijink, S.M. Brandenburg, D.S. Postma and A.J.M. van Oosterhout

- 429 Clara cells drive eosinophil accumulation in allergic asthma**
S.S. Sonar, M. Ehmke, L.M. Marsh, J. Dietze, J.C. Dudda, M.L. Conrad, H. Renz and W.A. Nockher

- 439 Interleukin-17A induces glucocorticoid insensitivity in human bronchial epithelial cells**
G.J. Zijlstra, N.H.T. ten Hacken, R.F. Hoffmann, A.J.M. van Oosterhout and I.H. Heijink

Mechanisms of lung disease

- 446 Rescue of murine silica-induced lung injury and fibrosis by human embryonic stem cells**
P. Spitalieri, M.C. Quitadamo, A. Orlandi, L. Guerra, E. Giardina, V. Casavola, G. Novelli, C. Saltini and F. Sanguolo

- 458 Resistin-like molecule- β is a human airway remodelling mediator**
C. Fang, Q. Meng, H. Wu, G. Eid, G. Zhang, X. Zhang, S. Yang, K. Huang, T.H. Lee, C.J. Corrigan and S. Ying

REVIEWS

- 467 Impact of cigarette smoke exposure on host-bacterial pathogen interactions**
J. Garmendia, P. Morey and J.A. Bengoechea

- 478 Surgical implications of the new IASLC/ATS/ERS adenocarcinoma classification**
P.E. Van Schil, H. Asamura, V.W. Rusch, T. Mitsudomi, M. Tsuboi, E. Brambilla and W.D. Travis

SERIES

SERIES "NOVELTIES IN PULMONARY REHABILITATION"

Edited by E. Clini and N. Ambrosino
Number 5 in this Series

- 487 Rehabilitation, weaning and physical therapy strategies in chronic critically ill patients**
N. Ambrosino, E. Venturini, G. Vagheggin and E. Clini

LETTERS

- 493 Low-dose methotrexate in PAH related to T-cell large granular lymphocyte leukaemia**
O. Grossi, D. Horeau-Langlard, C. Agard, A. Haloun, M. Lefebvre, A. Neel and M.A. Hamidou

- 495 Congenital rubella syndrome and left pulmonary artery sling**
E. Martínez-Quintana, F. Rodríguez-González and P. Junquera-Rionda

- 496 Effects of fasudil in patients with high-altitude pulmonary hypertension**
B. Kojonazarov, A. Myrzaakhmatova, T. Sooronbaev, T. Ishizaki and A. Aldashev

- 498 Nuclear magnetic resonance-based metabolomics of exhaled breath condensate: methodological aspects**
A. Motta, D. Paris, D. Melck, G. de Laurentiis, M. Maniscalco, M. Sofia and P. Montuschi

LETTERS (CONT.)

- 500 Metabolomic signatures in nuclear magnetic resonance spectra of exhaled breath condensate identify asthma**
A. Sinha, V. Krishnan, T. Sethi, S. Roy, B. Ghosh, R. Lodha, S. Kabra and A. Agrawal
- 502 Widespread use of serological tests for tuberculosis: data from 22 high-burden countries**
J. Grenier, L. Pinto, D. Nair, K. Steingart, D. Dowdy, A. Ramsay and M. Pai
- 505 Palliative percutaneous cryoablation in a patient with locally advanced invasive thymoma**
Y. Yamauchi, Y. Izumi, K. Hashimoto, H. Yashiro, M. Inoue, S. Nakatsuka, M. Kawamura and H. Nomori

CORRESPONDENCE

- 508 Supported home-care schemes: the key to increasing outpatient care?**
A.M. Collins, S. Wilks, D. Wootton and S.B. Gordon;
P.J. Marcos, M.I. Restrepo and H. Vereia;
G. Choudhury and A.T. Hill

f,j,l,n MEETING CALENDAR

CME Credit Application Form can be found at the back of this issue

EUROPEAN RESPIRATORY *journal*

"The advertiser shall be liable for the content of any of its advertisements published according to its instructions. The advertiser shall indemnify and hold harmless the European Respiratory Society against and from any and all claims, damages, liabilities, costs and expenses whatsoever, including reasonable counsel fees, arising from the content of any of its advertisements."

ERJ online at www.ersnet.org or
www.erj.ersjournals.com



This journal is a member of and subscribes to the principles of the Committee on Publication Ethics

