

World Journal of *Hypertension*

World J Hypertens 2012 October 23; 2(5): 45-49





Editorial Board

2011-2015

The *World Journal of Hypertension* Editorial Board consists of 103 members, representing a team of worldwide experts in hypertension. They are from 28 countries, including Argentina (1), Australia (4), Brazil (1), China (8), Egypt (1), Finland (1), Germany (8), Greece (3), India (2), Iran (1), Israel (1), Italy (6), Japan (12), Netherlands (1), Nigeria (1), Norway (1), Poland (2), Qatar (1), Russia (1), Saudi Arabia (2), Serbia (1), Slovakia (1), South Korea (3), Spain (6), Sweden (1), Turkey (1), United Kingdom (3), and United States (29).

EDITOR-IN-CHIEF

Bernard Man Yung Cheung, *Hong Kong*
Ryuichi Morishita, *Suita*

GUEST EDITORIAL BOARD MEMBERS

Nen-Chung Chang, *Taipei*
Ching-Feng Cheng, *Hualien*
Tzu-Hung Cheng, *Taichung*
Po-Shiuan Hsieh, *Taipei*

MEMBERS OF THE EDITORIAL BOARD



Argentina

Cesar G Fraga, *Buenos Aires*



Australia

John F Beltrame, *Adelaide*
Dominique AM Cadilhac, *Melbourne*
Kade Davison, *Lismore*
Xiao-Ming Gao, *Melbourne*



Brazil

Emmanuel Gomes Ciolac, *Sao Paulo*



China

Yang-Xin Chen, *Guangzhou*
Yu Huang, *Hong Kong*
Chang Liu, *Nanjing*



Egypt

Sherifa Ahmed Hamed, *Assiut*



Finland

Thomas Kietzmann, *Oulu*



Germany

Ingo Ahrens, *Freiburg*
René Pascal Andrié, *Bonn*
Andreas Daiber, *Mainz*
Cor de Wit, *Lübeck*
Raimund Erbel, *Essen*
Ioanna Gouni-Berthold, *Cologne*
Jens Jordan, *Hannover*
Masoud Mirzaie, *Lemgo*



Greece

Stamatios P Efstathiou, *Athens*
Moses Elisaf, *Ioannina*
Anastasios K Kollias, *Athens*



India

Sangiliyandi Gurunathan, *Virudhunagar*
Madhu Khullar, *Chandigarh*



Iran

Samad Ghaffari, *Tabriz*



Israel

Jacob George, *Rehovot*



Italy

Massimo Chello, *Rome*
Plinio Cirillo, MD, PhD, *Naples*
Cesare Cuspidi, *Meda*
Giovanni Landoni, *Milan*
Gianni Losano, *Turin*
Paolo Manunta, *Milan*



Japan

Xian-Wu Cheng, *Nagoya*
Toshiro Fujita, *Tokyo*
Michiya Igase, *Ehime*
Yoshihiro Ishikawa, *Yokohama*
Toshihiko Ishimitsu, *Mibu*
Kazuhiko Kotani, *Shimotsuke*
Zhong-Fang Lai, *Kumamoto*
Shin-ichiro Miura, *Fukuoka*
Toru Miyoshi, *Okayama*
Sachio Morimoto, *Tokyo*
Satoshi Morimoto, *Hirakata*



Netherlands

Charles Agyemang, *Amsterdam*



Nigeria

Simeon Alabi Simeon, *Sokoto*

**Norway**

Tonje Amb Aksnes, *Oslo*

**Poland**

Grzegorz Pawel Kopec, *Cracow*
Tomasz Rechciński, *Lodz*

**Qatar**

Hong Ding, *Doha*

**Russia**

Arthur M Melkumyants, *Moscow*

**Saudi Arabia**

Aiman M El-Saed Ramadan, *Riyadh*
Mohamed AA Haidara, *Abha*

**Serbia**

Dragan J Milic, *Nis*

**Slovakia**

Iveta Herichova, *Bratislava*

**South Korea**

Zang-Hee Cho, *Incheon*
Dong-Ik Kim, *Seoul*
Jong Ho Lee, *Seoul*

**Spain**

Adrià Arboix, *Barcelona*
Francisca Barceló, *Palma*
Pedro Morillas Blasco, *Elche*
Carlos Escobar Cervantes, *Madrid*
Pablo García de Frutos, *Barcelona*
Vicente Lahera, *Madrid*

**Sweden**

Axel Carl Carlsson, *Stockholm*

**Turkey**

Murat Biteker, *Istanbul*

**United Kingdom**

Charalambos Antoniadis, *Oxford*
Christopher Jackson, *Bristol*

Juan-Carlos Kaski, *London*

**United States**

Ali Ahmed, *Birmingham*
Vignendra Ariyaratnam, *Philadelphia*
Arlin Blood, *Loma Linda*
Michael D Brown, *Philadelphia*
Oscar A Carretero, *Detroit*
Kejing Chen, *Woodstock*
Yanfang Chen, *Dayton*
Julio A Chirinos, *Philadelphia*
Steven G Chrysant, *Oklahoma*
Julia L Cook, *New Orleans*
Brent M Egan, *Charleston*
Khalid Mustafa Elased, *Dayton*
Guo-Chang Fan, *Cincinnati*
Ming-Guo Feng, *New Orleans*
Robert Joel Goldberg, *Worcester*
Prasenjit Guchhait, *Houston*
Alok K Gupta, *Baton Rouge*
Muthuvel Jayachandran, *Rochester*
Huanguang Jia, *Gainesville*
Kai Jiao, *Birmingham*
Peter Kokkinos, *Washington*
Richard A Krasuski, *Cleveland*
Jason M Lazar, *Brooklyn*
Eric Lazartigues, *New Orleans*
De-Pei Li, *Houston*
Faqian Li, *Rochester*
Ruisheng Liu, *Jackson*
Jun Ma, *Palo Alto*
Robert H Mak, *La Jolla*



EDITORIAL

45

Nice new hypertension guidelines

Cheung BMY, Cheung TT

Contents

World Journal of Hypertension
Volume 2 Number 5 October 23, 2012

ACKNOWLEDGMENTS I Acknowledgments to reviewers of *World Journal of Hypertension*

APPENDIX I Meetings
I-V Instructions to authors

ABOUT COVER *World Journal of Hypertension* Editorial Board, Gianni Losano, MD, Professor, Department of Neuroscience, Physiology Division, Corso Raffaello, 30, 10125 Torino, Italy

AIM AND SCOPE *World Journal of Hypertension* (*World J Hypertens*, *WJH*, online ISSN 2220-3168, DOI: 10.5494) is a bimonthly peer-reviewed, online, open-access, journal supported by an editorial board consisting of 103 experts in hypertension from 28 countries.

The aim of *WJH* is to report rapidly new theories, methods and techniques for prevention, diagnosis, treatment, rehabilitation and nursing in the field of hypertension. *WJH* covers topics concerning atherosclerosis, atrial fibrillation, blood pressure measurement, cerebrovascular diseases, clinical aspects and trials for hypertension, community cardiovascular practice, diabetes, hypertension education programs, endocrine hypertension, epidemiology of hypertension and metabolic disorders, experimental hypertension, renal hypertension; and hypertension-related heart failure, hemodynamics, imaging procedures, implementation of guidelines, lifestyle changes, microcirculation, molecular biology, neural mechanisms, new therapeutic development, obesity and metabolic syndrome, organ damage, pharmacoeconomics, public health, renin-angiotensin system, sleep apnea, therapeutics and clinical pharmacology, traditional medicine, and integrated Chinese and Western medicine. The journal also publishes original articles and reviews that report the results of hypertension-related applied and basic research in fields such as immunology, physiopathology, cell biology, pharmacology, medical genetics, and pharmacology of Chinese herbs.

FLYLEAF I-II Editorial Board

EDITORS FOR THIS ISSUE

Responsible Assistant Editor: *Yuan Zhou*
Responsible Electronic Editor: *Xiao-Mei Zheng*
Proofing Editor-in-Chief: *Lian-Sheng Ma*

Responsible Science Editor: *Jin-Lei Wang*
Proofing Editorial Office Director: *Jin-Lei Wang*

NAME OF JOURNAL
World Journal of Hypertension

ISSN
ISSN 2220-3168 (online)

LAUNCH DATE
December 23, 2011

FREQUENCY
Bimonthly

EDITING
Editorial Board of *World Journal of Hypertension*
Room 903, Building D, Ocean International Center,
No. 62 Dongsihuan Zhonglu, Chaoyang District,
Beijing 100025, China
Telephone: +86-10-85381891
Fax: +86-10-85381893
E-mail: wjhypertens@wjgnet.com
<http://www.wjgnet.com>

EDITOR-IN-CHIEF
Bernard Man Yung Cheung, PhD, Clinical Professor,
Division of Clinical Pharmacology and Therapeutics, De-
partment of Medicine, University of Hong Kong, Room

802, 8/F, Administration Block, Queen Mary Hospital,
102 Pokfulam Road, Hong Kong, China

Ryuichi Morishita, MD, PhD, Professor, Department
of Clinical Gene Therapy, Osaka University Graduate
School of Medicine, 2-2 Yamada-oka, Suita City, Osaka,
565-0871, Japan

EDITORIAL OFFICE
Jian-Xia Cheng, Director
Jin-Lei Wang, Vice Director
World Journal of Hypertension
Room 903, Building D, Ocean International Center,
No. 62 Dongsihuan Zhonglu, Chaoyang District,
Beijing 100025, China
Telephone: +86-10-85381891
Fax: +86-10-85381893
E-mail: wjhypertens@wjgnet.com
<http://www.wjgnet.com>

PUBLISHER
Baishideng Publishing Group Co., Limited
Room 1701, 17/F, Henan Building,
No.90 Jaffe Road, Wanchai, Hong Kong, China
Fax: +852-31158812
Telephone: +852-58042046

E-mail: bpg@baishideng.com
<http://www.wjgnet.com>

PUBLICATION DATE
October 23, 2012

COPYRIGHT
© 2012 Baishideng. Articles published by this Open-
Access journal are distributed under the terms of the
Creative Commons Attribution Non-commercial Li-
cense, which permits use, distribution, and reproduction
in any medium, provided the original work is properly
cited, the use is non commercial and is otherwise in
compliance with the license.

SPECIAL STATEMENT
All articles published in this journal represent the view-
points of the authors except where indicated otherwise.

INSTRUCTIONS TO AUTHORS
Full instructions are available online at http://www.wjgnet.com/2220-3168/g_info_20100722180909.htm.

ONLINE SUBMISSION
<http://www.wjgnet.com/esp/>

Nice new hypertension guidelines

Bernard Man Yung Cheung, Tommy Tsang Cheung

Bernard Man Yung Cheung, Tommy Tsang Cheung, Division of Clinical Pharmacology and Therapeutics, Department of Medicine, University of Hong Kong, Hong Kong, China
Author contributions: Both authors contributed equally to this article.

Correspondence to: Bernard Man Yung Cheung, PhD, FRCP, Professor, Department of Medicine, University of Hong Kong, Queen Mary Hospital, Hong Kong, China. mycheung@hku.hk
Telephone: +852-2-2554347 Fax: +852-2-8186474

Received: December 26, 2011 Revised: July 12, 2012

Accepted: July 23, 2012

Published online: October 23, 2012

Key words: Hypertension; Guidelines; Angiotensin-converting enzyme inhibitor; The National Institute for Clinical Excellence

Peer reviewer: Gianni Losano, Professor, Division of Physiology, University of Turin, Corso Raffaello, 30, 10125 Turin, Italy

Cheung BM, Cheung TT. Nice new hypertension guidelines. *World J Hypertens* 2012; 2(5): 45-49 Available from: URL: <http://www.wjgnet.com/2220-3168/full/v2/i5/45.htm> DOI: <http://dx.doi.org/10.5494/wjh.v2.i5.45>

Abstract

The National Institute for Clinical Excellence in the United Kingdom published a new set of guidelines on the management of primary hypertension in August 2011, reflecting some important changes in the diagnosis and treatment of hypertension. Ambulatory blood pressure measurement is now the new gold standard for diagnosis. Home blood pressure monitoring is a useful alternative for the diagnosis and monitoring of hypertension. Calcium channel blockers (CCB) and blockers of the renin-angiotensin system have surpassed diuretics and β -blockers as first line options. Patients younger than 55 should receive an angiotensin-converting enzyme inhibitor, or an angiotensin receptor blocker if the former is not tolerated. Older patients should be started on a CCB. A thiazide diuretic can be added to these two groups for better blood pressure control, but, chlorthalidone and indapamide are the preferred diuretics as they showed favorable outcomes in large clinical trials. Treatment with these three drug classes should be sufficient in the majority of patients, but if triple therapy is still insufficient, referral to a hypertension specialist is recommended. Additional diuretic therapy, spironolactone, or an α or β blocker can be used as the fourth line treatment.

© 2012 Baishideng. All rights reserved.

INTRODUCTION

Hypertension is exceedingly common worldwide. Its prevalence is about 30% in US and about 20% in China^[1]. There are around one billion people with hypertension in the world today. Treatment to lower blood pressure has been shown to reduce the risk of stroke and myocardial infarction, and reduce the incidence of heart failure and the progression of chronic kidney disease.

The key to reducing cardiovascular disease is the measurement of the blood pressure of all members of the population, the detection of everyone with hypertension whose blood pressures fall within the criteria for treatment, and the availability of good treatment leading to good blood pressure control. Measures such as cutting sodium intake, eating more fruits and vegetables, fewer calories and more regular exercise^[2] would shift the average blood pressure across the whole population, which would in turn reduce the number of people with hypertension and the number of cardiovascular events. This is the population or public health approach that requires government action.

At the other end of the scale, better care of individual patients with hypertension also brings dividends. It is in this spirit that guidelines on the management of hypertension are developed. In 2011, American and British guidelines on the management of hypertension were

scheduled to be updated. The British guidelines, developed by the National Institute for Clinical Excellence (NICE), were published in August 2011^[3].

NICE METHODOLOGY

What is special about the NICE methodology is that it is highly evidence based and incorporates cost-effectiveness considerations in its guidance. Compared to many other consensus guidelines, it is less dependent on expert opinions, but is keen to include a diverse range of opinions, including non-specialists, non-clinicians, and the pharmaceutical industry. These stakeholders were engaged in the guideline development process.

The 2011 NICE guidelines are intentionally limited in scope. While they cover the huge majority of hypertensive patients, special groups such as secondary hypertension, diabetic, pregnant or paediatric patients are not covered.

There are several significant changes in these guidelines. Essentially, the guidelines break new ground in the method of diagnosis of hypertension, the initiation and monitoring of drug treatment, and the choice of antihypertensive drug treatment.

Ines break new ground in the method of diagnosis of hypertension, the initiation and monitoring of drug treatment, and the choice of antihypertensive drug treatment.

Agnosis of hypertension, the initiation and monitoring of drug treatment, and the choice of antihypertensive drug treatment.

Nd monitoring of drug treatment, and the choice of antihypertensive drug treatment.

Choice of antihypertensive drug treatment.

DIAGNOSIS OF HYPERTENSION

Ambulatory blood pressure is now the new gold standard in the diagnosis of hypertension. If the clinic blood pressure is 140/90 mmHg or higher, it is recommended to offer patients ambulatory blood pressure monitoring to confirm the diagnosis. Ambulatory blood pressure monitoring is valuable not only in people with white coat hypertension, but also in people whose ambulatory blood pressures are higher than blood pressure readings in the clinic. This entity is called reverse white coat hypertension or masked hypertension^[4]. Clinic blood pressure underestimates the true blood pressure in these individuals, and therefore traditional blood pressure measurements result in under-treatment, dangerous masked hypertension with a poor prognosis. The existence and the prognosis of this entity provide the rationale for the recommendation of ambulatory or home blood pressure monitoring in the new guidelines.

Ambulatory blood pressure monitoring also allows blood pressure to be monitored during sleep, and is useful to determine nocturnal dipping in patients with

Table 1 Definition of severity of hypertension^[3]

Stage 1 hypertension
Clinic BP is 140/90 mmHg or higher and
ABPM or HBPM average is 135/85 mmHg or higher
Stage 2 hypertension
Clinic BP 160/100 mmHg is or higher and
ABPM or HBPM daytime average is 150/95 mmHg or higher
Severe hypertension
Clinic BP is 180 mmHg or higher or
Clinic diastolic BP is 110 mmHg or higher

ABPM: Ambulatory blood pressure monitoring; HBPM: Home blood pressure monitoring; BP: Blood pressure.

hypertension. A night time fall is normal but an absence of nocturnal dipping is associated with poorer health outcomes and end organ damage. Therefore, ambulatory blood pressure monitoring helps to identify this group of patients who are at higher risk.

Ambulatory blood pressure monitoring is not always available and its repeated use for monitoring purposes is inconvenient as blood pressure is measured twice every hour during the usual waking hours of the individual. During the night, hourly measurement can disturb the normal bio-rhythm and induce a state of alarm. This can disturb the normal nocturnal dip in blood pressure and overestimate the nocturnal blood pressure. Moreover, recording for 24 h sometimes fails because of machine error, displacement of the cuff or its removal by the patient. In patients with atrial fibrillation, automated blood pressure readings are made on individual beats, and so these may not truly reflect the mean level of blood pressure.

Home blood pressure monitoring is now also recognised as being useful and informative in the diagnosis of hypertension and the monitoring of blood pressure^[5]. Patients are recommended to record the blood pressure twice daily, each recording with two consecutive measurements, for at least 4 d. Home blood pressure monitors are now inexpensive and many patients can afford to buy one or receive one as a gift. Therefore, it encourages patients to be involved in their own care and they can provide a large number of readings spread over a long period of time. The drawbacks are that they are not as easily validated as the machines in the clinic, and that their accuracy depends on adequate resting before measurement, proper application of cuff and correct operation of the machine. Significant measurement errors may occur in patients with arrhythmias. There is also a danger that patients may adjust their medications, increase or decrease them depending on the home blood pressure readings, a practice which should be discouraged in most cases.

INITIATION OF TREATMENT

The 2011 NICE guidelines recognise that prompt control of blood pressure is needed in patients who present

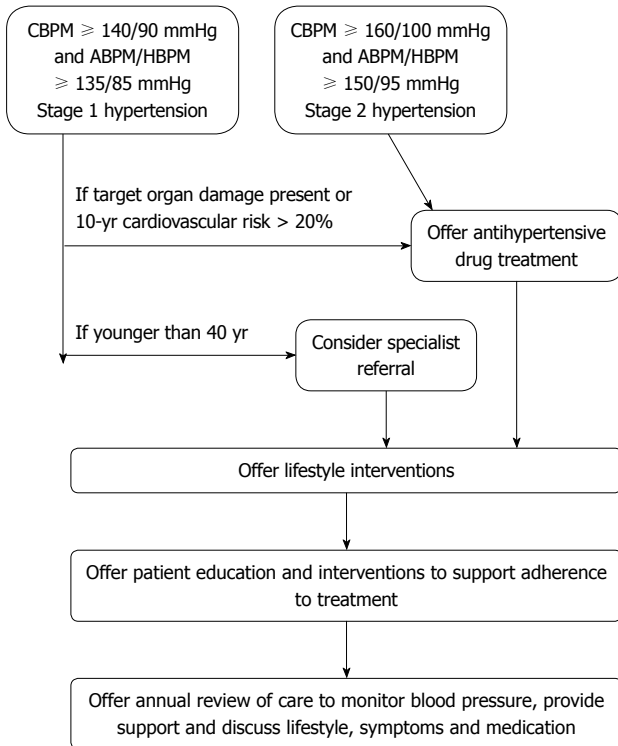


Figure 1 Care pathway^[3]. ABPM: Ambulatory blood pressure monitoring; HBPM: Home blood pressure monitoring.

with more severe hypertension, e.g., stage 2 hypertension (clinic blood pressure $\geq 160/100$ mmHg or ambulatory/home blood pressure $\geq 150/95$ mmHg) (Table 1). In these patients, initiation of drug treatment should be considered because lifestyle changes alone are unlikely to be enough to achieve satisfactory blood pressure control, or achieve that sufficiently quickly (Figure 1). Patients with stage 1 hypertension but with evidence of target organ damage (e.g., left ventricular hypertrophy, albuminuria, hypertensive retinopathy), established cardiovascular disease, renal disease, diabetes or those whose 10-year cardiovascular risk (assessed by a suitable risk scoring system^[6]) exceeds 20% should also receive drug treatment early.

Patients under the age of 40 have a higher chance of secondary hypertension and so should be considered for specialist referral for investigation and treatment of these causes of hypertension.

Clinic blood pressure measurements should be used to monitor the response to treatment. The target blood pressure is defined as lower than 140/90 mmHg for those younger than 80 years old. If the “white coat effect” is present, home blood pressure monitoring can be used with the target average blood pressure of 135/85 mmHg. The new guidelines set a less stringent clinic blood pressure target for people aged 80 and over -150/90 mmHg. This is based on the HYpertension in the Very Elderly Trial (HYVET) that recruited patients aged 80 and above, and used this target blood pressure^[7]. These patients usually have a wide pulse pressure

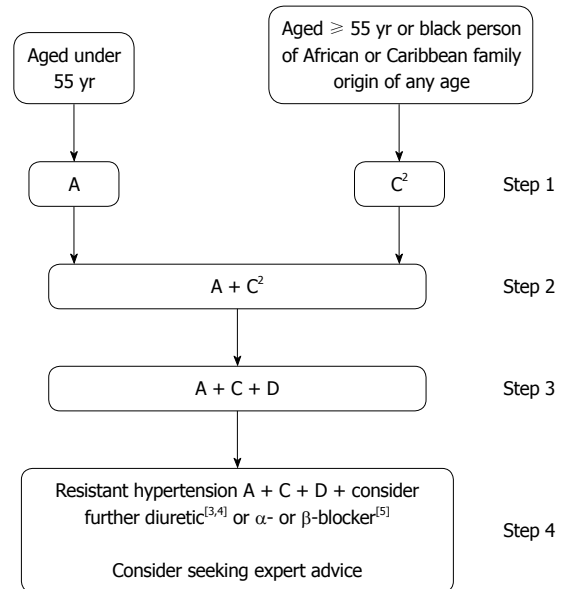


Figure 2 Summary of antihypertensive drug treatment^[3]. A: Angiotensin-converting enzyme inhibitor or low-cost angiotensin II receptor blocker (ARB)^[1]; C: Calcium-channel blocker (CCB); D: Thiazide-like diuretic (1) Choose a low-cost ARB; (2) A CCB is preferred but consider a thiazide-like diuretic if a CCB is not tolerated or the person has oedema, evidence of heart failure or a high risk of heart failure; (3) Consider a low dose of spironolactone^[4] or higher doses of a thiazide-like diuretic; (4) At the time of publication (August 2011), spironolactone did not have a UK marketing authorisation for this indication. Informed consent should be obtained and documented; and (5) Consider an α - or β -blocker if further diuretic therapy is not tolerated, or is contraindicated or ineffective.

because of the high systolic pressure resulting from atherosclerosis. If the systolic blood pressure is brought below 140 mmHg, the diastolic blood pressure can be considerably lower than 90 mmHg. Moreover, patients may have to take multiple drugs, which could lead to considerable side effects. The new guidelines also set target blood pressures for ambulatory and home blood pressure monitoring, i.e., below 135/85 mmHg in people aged under 80, and below 145/85 mmHg in people aged 80 and over.

CHOICE OF ANTIHYPERTENSIVE DRUGS

In the new guidelines, there are changes to the recommended first line treatment. As before, it is recommended that patients under the age of 55 initially receive an angiotensin-converting enzyme inhibitor (ACEI) or a “low-cost” angiotensin receptor blocker (ARB) (Figure 2). Combination of an angiotensin converting enzyme inhibitor and an ARB is not recommended for the treatment of hypertension. For patients over the age of 55, and for patients of any age of African or Caribbean family origin, a calcium channel blocker (CCB) is the first drug to be used. Diuretics are now a second line agent and will be an alternative for patients who cannot tolerate CCB.

CCB and blockers of the renin-angiotensin system have surpassed diuretics and β -blockers as first line drugs largely as a result of the Anglo-Scandinavian Cardiac

Outcomes Trial (ASCOT) study, which showed that these newer agents were better than older agents in terms of cardiovascular outcome^[8]. Moreover, in ASCOT and in meta-analysis^[9], ARB and ACEI were associated with a decrease in new onset diabetes whereas diuretics and β -blockers were associated with an increase in risk for the condition.

Interestingly, chorthalidone and indapamide are the recommended thiazide diuretics as they showed favourable outcomes in large clinical trials, such as the Anti-hypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT)^[10] and HYVET^[7]. In the UK, hydrochlorothiazide and bendroflumethiazide have been frequently prescribed for the treatment of hypertension. The former is often added to an ACEI or an ARB in fixed dose combination tablets.

Treatment with these three drug classes should be sufficient in the majority of patients, but if triple therapy is insufficient, referral to a hypertension specialist is recommended. α and β adrenergic antagonists do not even make fourth place among recommendations; this is taken by spironolactone. Although spironolactone has been found in recent years to be a useful drug for resistant hypertension^[11], it may increase the risk of hyperkalaemia. In those high risk patients, higher dose of a thiazide diuretic should be considered. Unlike spironolactone, the newer aldosterone antagonist eplerenone does not cause gynaecomastia. Whether it may be used in place of spironolactone for the treatment of hypertension is unclear. α -blockers were found wanting in ALLHAT, in which treatment with an α -blocker was associated with more heart failure. β -blockers were already relegated to fourth line treatment in the previous NICE guidelines, because they control blood pressure poorly in the elderly and tend to cause type 2 diabetes.

CRITICISMS OF THE NEW GUIDELINES

The new UK guidelines, based on the best available current evidence, may be criticised for the heavy reliance on large scale randomised controlled trials. As a result, newer drugs are favoured while older drugs may be disadvantaged. Similarly, lifestyle and population measures have not been given their due recognition because of the lack of randomised controlled trials showing improvements in hard cardiovascular outcomes.

At first sight, ambulatory blood pressure monitoring seems to be expensive and time-consuming. At least, practices and clinics would have to purchase more of these machines, which cost thousands of pounds. However, a cost-effectiveness analysis undertaken by NICE showed that the use of ambulatory blood pressure monitoring to confirm the diagnosis of hypertension saves costs in the long run for the National Health Service^[12].

The relationship between blood pressure and cardiovascular risk is continuous. Therefore, the blood pressure levels chosen for the diagnosis of hypertension and target

blood pressures are arbitrary. Treatment decisions should not be based on blood pressure levels alone, however accurately they can be determined, but should also include an assessment of risks and benefits.

CONCLUSION

Hypertension is prevalent worldwide and aging of the population means that there are more and more people with hypertension. Therefore, the scale of the problem of diagnosing, treating and controlling hypertension is immense. Current efforts are channelled towards the detection and treatment of hypertension in middle and old age. The linear rise in the prevalence of hypertension with age means that measures to prevent hypertension, such as a healthy diet and regular physical activity, should start early in life. For those who have already developed hypertension, early diagnosis and treatment is important. Existing antihypertensive drugs are not ideal individually and so a combination of drugs is needed in a large proportion of patients. The choice of such drugs should be rational and evidence-based.

REFERENCES

- 1 **Cheung BMY, Ong KL.** The Challenge of Managing Hypertension. In: Finkel ML, editor. Public Health in the 21st Century. Santa Barbara, CA: Praeger Publishing, 2010
- 2 **Cheung BMY, Lam TC.** Hypertension and diet. In: Caballero B, Trugo LC, Finglas PM, editors. Encyclopaedia of Food Sciences and Nutrition. London: Academic Press, 2003: 3194-3199
- 3 **National Institute for Health and Clinical Excellence.** Hypertension: Clinical management of primary hypertension in adults. Available from: URL: <http://egap.evidence.nhs.uk/CG127>. Accessed September 21, 2011
- 4 **Mancia G, Bombelli M, Seravalle G, Grassi G.** Diagnosis and management of patients with white-coat and masked hypertension. *Nat Rev Cardiol* 2011; **8**: 686-693
- 5 **Hodgkinson J, Mant J, Martin U, Guo B, Hobbs FD, Deeks JJ, Heneghan C, Roberts N, McManus RJ.** Relative effectiveness of clinic and home blood pressure monitoring compared with ambulatory blood pressure monitoring in diagnosis of hypertension: systematic review. *BMJ* 2011; **342**: d3621
- 6 **Conroy RM, Pyörälä K, Fitzgerald AP, Sans S, Menotti A, De Backer G, De Bacquer D, Ducimetière P, Jousilahti P, Keil U, Njølstad I, Oganov RG, Thomsen T, Tunstall-Pedoe H, Tverdal A, Wedel H, Whincup P, Wilhelmsen L, Graham IM.** Estimation of ten-year risk of fatal cardiovascular disease in Europe: the SCORE project. *Eur Heart J* 2003; **24**: 987-1003
- 7 **Beckett NS, Peters R, Fletcher AE, Staessen JA, Liu L, Dumitrascu D, Stoyanovsky V, Antikainen RL, Nikitin Y, Anderson C, Belhani A, Forette F, Rajkumar C, Thijs L, Banya W, Bulpitt CJ.** Treatment of hypertension in patients 80 years of age or older. *N Engl J Med* 2008; **358**: 1887-1898
- 8 **Dahlöf B, Sever PS, Poulter NR, Wedel H, Beevers DG, Caulfield M, Collins R, Kjeldsen SE, Kristinsson A, McInnes GT, Mehlsen J, Nieminen M, O'Brien E, Ostergren J.** Prevention of cardiovascular events with an antihypertensive regimen of amlodipine adding perindopril as required versus atenolol adding bendroflumethiazide as required, in the Anglo-Scandinavian Cardiac Outcomes Trial-Blood Pressure Lowering Arm (ASCOT-BPLA): a multicentre randomised

- controlled trial. *Lancet* 2005; **366**: 895-906
- 9 **Elliott WJ**, Meyer PM. Incident diabetes in clinical trials of antihypertensive drugs: a network meta-analysis. *Lancet* 2007; **369**: 201-207
- 10 **ALLHAT Officers and Coordinators for the ALLHAT Collaborative Research Group. The Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial.** Major outcomes in high-risk hypertensive patients randomized to angiotensin-converting enzyme inhibitor or calcium channel blocker vs diuretic: The Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). *JAMA* 2002; **288**: 2981-2997
- 11 **Václavík J**, Sedlák R, Plachy M, Navrátil K, Plásek J, Jarokovsky J, Václavík T, Husár R, Kociánová E, Táborsky M. Addition of spironolactone in patients with resistant arterial hypertension (ASPIRANT): a randomized, double-blind, placebo-controlled trial. *Hypertension* 2011; **57**: 1069-1075
- 12 **Lovibond K**, Jowett S, Barton P, Caulfield M, Heneghan C, Hobbs FD, Hodgkinson J, Mant J, Martin U, Williams B, Wonderling D, McManus RJ. Cost-effectiveness of options for the diagnosis of high blood pressure in primary care: a modelling study. *Lancet* 2011; **378**: 1219-1230

S- Editor Xiong L **L- Editor** Hughes D **E- Editor** Zheng XM



ACKNOWLEDGMENTS

Acknowledgments to reviewers of World Journal of Hypertension

We acknowledge our sincere thanks to our reviewers. Many reviewers have contributed their expertise and time to the peer review, a critical process to ensure the quality of our World Series Journals. Both the editors of the journals and authors of the manuscripts submitted to the journals are grateful to the following reviewers for reviewing the articles (either published or rejected) over the past period of time.

Zhong-Fang Lai, MD, PhD, Assistant Professor, Department of Pharmacology and Molecular Therapeutics, Graduate School of Medical Sciences Kumamoto University, 1-1-1, Honjo, Kumamoto City 860-8556, Japan

Plinio Cirillo, MD, PhD, Assistant Professor, Department of Clinical Medicine, Cardiovascular Science and Immunology (Division of Cardiology), University of Naples "Federico II", Via Sergio Panini, 5, 80131 Naples, Italy

Anastasios K Kollias, MD, PhD, Hypertension Center, 3rd University Department of Internal Medicine, Sotiria Hospital, 152 Mesogion Avenue, Athens 11527, Greece

Xian-Wu Cheng, MD, PhD, Associate Professor, The Department of Cardiology, Nagoya University Graduate School of Medicine, 65 Tsuruma-cho, Showa-ku, Nagoya 466-8550, Aichiken, Japan

Eric Lazartigues, PhD, FAHA, Assistant Professor, Department

of Pharmacology and Experimental Therapeutics, Louisiana State University Health Sciences Center - School of Medicine, 1901 Perdido Street, Room 5218, New Orleans, LA 70112, United States

Prasenjit Guchhait, PhD, Assistant Professor, Thrombosis Research Division, Cardiovascular Research Section, Department of Medicine, Baylor College of Medicine, One Baylor Plaza, N1319, Houston, TX 77030, United States

Murat Biteker, MD, Department of Cardiology, Haydarpasa Numune Education and Research Hospital, Kadikoy, Istanbul 34750, Turkey

Pablo García de Frutos, PhD, Department of Cell Death and Proliferation, Head, Institute of Biomedical Research of Barcelona, c/ Rosellón 161, 6p, Barcelona E-08036, Spain

De-Pei Li, MD, Assistant Professor, Department of Critical Care, The University of Texas, MD Anderson Cancer Center, Houston, TX 77030, United States

Robert Joel Goldberg, PhD, Professor, Department of Quantitative Health Sciences, 7th Floor, ACCESS Building, University of MA Medical School, Worcester, MA 01655, United States

Andreas Daiber, PhD, Professor, Universitätsmedizin der JGU Mainz, Labor für Molekulare Kardiologie, Verfügungsgebäude für Forschung und Entwicklung 911, Raum 00349, Obere Zahlbacher Straße 63, 55101 Mainz, Germany



Events Calendar 2012

January 11, 2012

Supporting the Challenge:
Implementing the new NICE
Hypertension Guidelines in Primary
Care
BHS/PCCS/Takeda Workshop for
Nurses & Pharmacists
Bristol, United Kingdom

February 8, 2012

BHS Hypertension & Cardiovascular
Risk Spring Update for Nurses
Aberdeen Royal Infirmary,
Aberdeen, United Kingdom

February 10-12, 2012

Malaysian Society of Hypertension
9th Annual Scientific Meeting 2012
Kuala Lumpur, Malaysian

February 24, 2012

BHS Hypertension Masterclass
NICE Hypertension Guidelines:

Essential Hypertension and
Pregnancy
The Møller Centre, Churchill
College,
Cambridge, United Kingdom

February 25- 28, 2012

Serbian Society of Hypertension 3rd
International Meeting 2012
Belgrade, Serbia

March 3-5, 2012

South African Hypertension Society
17th Biennial Congress 2012
Cape Town, South Africa

March 14-18, 2012

9th Mediterranean Meeting on
Hypertension and Atherosclerosis
Turkish Society of Hypertension and
Atherosclerosis
Antalya, Turkey

March 22-25, 2012

2nd Latin America Congress on
Controversies to Consensus in
Diabetes, Obesity and Hypertension
2012

Rio de Janeiro, Brazil

April 11-13, 2012

ICDHLSP 2012: International
Conference on Diabetes,
Hypertension, Lipids and Stroke
Prevention
Venice, Italy

April 26 - 29, 2012

22nd Scientific Meeting of the
European Society of Hypertension
Excel Centre,
London, United Kingdom

May 19 - 22, 2012

2012 American Society of
Hypertension Annual Scientific
Meeting & Exposition
Hilton New York,

NY, United States

June 21-24, 2012

10th International Pulmonary
Hypertension Conference and
Scientific Sessions 2012
Orlando,
FL, United States

July 9-12, 2012

3rd International Congress on
Abdominal Obesity 2012
Quebec City, Canada

July 9-12, 2012

International Society for the Study
of Hypertension in Pregnancy 18th
World Congress 2012
Geneva, Switzerland

September 30 to October 4, 2012

Hypertension Sydney 2012
Sydney Convention and Exhibition
Centre,
Sydney, Australia

GENERAL INFORMATION

World Journal of Hypertension (*World J Hypertens*, *WJH*, online ISSN 2220-3168, DOI: 10.5494) is a bimonthly peer-reviewed, online, open-access (OA), journal supported by an editorial board consisting of 103 experts in hypertension from 28 countries.

The biggest advantage of the OA model is that it provides free, full-text articles in PDF and other formats for experts and the public without registration, which eliminates the obstacle that traditional journals possess and usually delays the speed of the propagation and communication of scientific research results. The open access model has been proven to be a true approach that may achieve the ultimate goal of the journals, i.e. the maximization of the value to the readers, authors and society.

Maximization of personal benefits

The role of academic journals is to exhibit the scientific levels of a country, a university, a center, a department, and even a scientist, and build an important bridge for communication between scientists and the public. As we all know, the significance of the publication of scientific articles lies not only in disseminating and communicating innovative scientific achievements and academic views, as well as promoting the application of scientific achievements, but also in formally recognizing the "priority" and "copyright" of innovative achievements published, as well as evaluating research performance and academic levels. So, to realize these desired attributes of *WJH* and create a well-recognized journal, the following four types of personal benefits should be maximized. The maximization of personal benefits refers to the pursuit of the maximum personal benefits in a well-considered optimal manner without violation of the laws, ethical rules and the benefits of others. (1) Maximization of the benefits of editorial board members: The primary task of editorial board members is to give a peer review of an unpublished scientific article via online office system to evaluate its innovativeness, scientific and practical values and determine whether it should be published or not. During peer review, editorial board members can also obtain cutting-edge information in that field at first hand. As leaders in their field, they have priority to be invited to write articles and publish commentary articles. We will put peer reviewers' names and affiliations along with the article they reviewed in the journal to acknowledge their contribution; (2) Maximization of the benefits of authors: Since *WJH* is an OA journal, readers around the world can immediately download and read, free of charge, high-quality, peer-reviewed articles from *WJH* official website, thereby realizing the goals and significance of the communication between authors and peers as well as public reading; (3) Maximization of the benefits of readers: Readers can read or use, free of charge, high-quality peer-reviewed articles without any limits, and cite the arguments, viewpoints, concepts, theories, methods, results, conclusion or facts and data of pertinent literature so as to validate the innovativeness, scientific and practical values of their own research achievements, thus ensuring that their articles have novel arguments or viewpoints, solid evidence and correct conclusion; and (4) Maximization of the benefits of employees: It is an iron law that a first-class journal is unable to exist without first-class editors, and only first-class editors can create a first-class academic journal. We insist on strengthening our team cultivation and construction so that every employee, in an open, fair and transparent environment, could contribute their wis-

dom to edit and publish high-quality articles, thereby realizing the maximization of the personal benefits of editorial board members, authors and readers, and yielding the greatest social and economic benefits.

Aims and scope

WJH aims to report rapidly new theories, methods and techniques for prevention, diagnosis, treatment, rehabilitation and nursing in the field of hypertension. *WJH* covers topics concerning atherosclerosis, atrial fibrillation, blood pressure measurement, cerebrovascular diseases, clinical aspects and trials for hypertension, community cardiovascular practice, diabetes, hypertension education programs, endocrine hypertension, epidemiology of hypertension and metabolic disorders, experimental hypertension, renal hypertension; and hypertension-related heart failure, hemodynamics, imaging procedures, implementation of guidelines, lifestyle changes, microcirculation, molecular biology, neural mechanisms, new therapeutic development, obesity and metabolic syndrome, organ damage, pharmacoeconomics, public health, renin-angiotensin system, sleep apnea, therapeutics and clinical pharmacology, traditional medicine, and integrated Chinese and Western medicine. The journal also publishes original articles and reviews that report the results of hypertension-related applied and basic research in fields such as immunology, physiopathology, cell biology, pharmacology, medical genetics, and pharmacology of Chinese herbs.

Columns

The columns in the issues of *WJH* will include: (1) Editorial: To introduce and comment on the substantial advance and its importance in the fast-developing areas; (2) Frontier: To review the most representative achievements and comment on the current research status in the important fields, and propose directions for the future research; (3) Topic Highlight: This column consists of three formats, including (A) 10 invited review articles on a hot topic, (B) a commentary on common issues of this hot topic, and (C) a commentary on the 10 individual articles; (4) Observation: To update the development of old and new questions, highlight unsolved problems, and provide strategies on how to solve the questions; (5) Guidelines for Clinical Practice: To provide guidelines for clinical diagnosis and treatment; (6) Review: To systemically review the most representative progress and unsolved problems in the major scientific disciplines, comment on the current research status, and make suggestions on the future work; (7) Original Articles: To originally report the innovative and valuable findings in hypertension; (8) Brief Articles: To briefly report the novel and innovative findings in hypertension; (9) Case Report: To report a rare or typical case; (10) Letters to the Editor: To discuss and make reply to the contributions published in *WJH*, or to introduce and comment on a controversial issue of general interest; (11) Book Reviews: To introduce and comment on quality monographs of hypertension; and (12) Guidelines: To introduce consensus and guidelines reached by international and national academic authorities worldwide on the research in hypertension.

Name of journal

World Journal of Hypertension

ISSN

ISSN 2220-3168 (online)

Instructions to authors

Editor-in-Chief

Bernard Man Yung Cheung, PhD, Clinical Professor, Division of Clinical Pharmacology and Therapeutics, Department of Medicine, University of Hong Kong, Room 802, 8/F, Administration Block, Queen Mary Hospital, 102 Pokfulam Road, Hong Kong, China

Ryuichi Morishita, MD, PhD, Professor, Department of Clinical Gene Therapy, Osaka University Graduate School of Medicine, 2-2 Yamada-oka, Suita City, Osaka, 565-0871, Japan

Editorial Office

World Journal of Hypertension

Editorial Department: Room 903, Building D,

Ocean International Center,

No. 62 Dongsihuan Zhonglu,

Chaoyang District, Beijing 100025, China

E-mail: wjhypertens@wjgnet.com

<http://www.wjgnet.com>

Telephone: +86-10-85381891

Fax: +86-10-85381893

Indexed and Abstracted in

Digital Object Identifier.

Published by

Baishideng Publishing Group Co., Limited

SPECIAL STATEMENT

All articles published in this journal represent the viewpoints of the authors except where indicated otherwise.

Biostatistical editing

Statistical review is performed after peer review. We invite an expert in Biomedical Statistics to evaluate the statistical method used in the paper, including *t*-test (group or paired comparisons), chi-squared test, Ridit, probit, logit, regression (linear, curvilinear, or stepwise), correlation, analysis of variance, analysis of covariance, *etc.* The reviewing points include: (1) Statistical methods should be described when they are used to verify the results; (2) Whether the statistical techniques are suitable or correct; (3) Only homogeneous data can be averaged. Standard deviations are preferred to standard errors. Give the number of observations and subjects (*n*). Losses in observations, such as drop-outs from the study should be reported; (4) Values such as ED50, LD50, IC50 should have their 95% confidence limits calculated and compared by weighted probit analysis (Bliss and Finney); and (5) The word 'significantly' should be replaced by its synonyms (if it indicates extent) or the *P* value (if it indicates statistical significance).

Conflict-of-interest statement

In the interests of transparency and to help reviewers assess any potential bias, *WJH* requires authors of all papers to declare any competing commercial, personal, political, intellectual, or religious interests in relation to the submitted work. Referees are also asked to indicate any potential conflict they might have reviewing a particular paper. Before submitting, authors are suggested to read "Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Ethical Considerations in the Conduct and Reporting of Research: Conflicts of Interest" from International Committee of Medical Journal Editors (ICMJE), which is available at: http://www.icmje.org/ethical_4conflicts.html.

Sample wording: [Name of individual] has received fees for serving as a speaker, a consultant and an advisory board member for [names of organizations], and has received research funding from [names of organization]. [Name of individual] is an employee of [name of organization]. [Name of individual] owns stocks and shares in [name of organization]. [Name of individual] owns patent [patent identification and brief description].

Statement of informed consent

Manuscripts should contain a statement to the effect that all human

studies have been reviewed by the appropriate ethics committee or it should be stated clearly in the text that all persons gave their informed consent prior to their inclusion in the study. Details that might disclose the identity of the subjects under study should be omitted. Authors should also draw attention to the Code of Ethics of the World Medical Association (Declaration of Helsinki, 1964, as revised in 2004).

Statement of human and animal rights

When reporting the results from experiments, authors should follow the highest standards and the trial should conform to Good Clinical Practice (for example, US Food and Drug Administration Good Clinical Practice in FDA-Regulated Clinical Trials; UK Medicines Research Council Guidelines for Good Clinical Practice in Clinical Trials) and/or the World Medical Association Declaration of Helsinki. Generally, we suggest authors follow the lead investigator's national standard. If doubt exists whether the research was conducted in accordance with the above standards, the authors must explain the rationale for their approach and demonstrate that the institutional review body explicitly approved the doubtful aspects of the study.

Before submitting, authors should make their study approved by the relevant research ethics committee or institutional review board. If human participants were involved, manuscripts must be accompanied by a statement that the experiments were undertaken with the understanding and appropriate informed consent of each. Any personal item or information will not be published without explicit consents from the involved patients. If experimental animals were used, the materials and methods (experimental procedures) section must clearly indicate that appropriate measures were taken to minimize pain or discomfort, and details of animal care should be provided.

SUBMISSION OF MANUSCRIPTS

Manuscripts should be typed in 1.5 line spacing and 12 pt. Book Antiqua with ample margins. Number all pages consecutively, and start each of the following sections on a new page: Title Page, Abstract, Introduction, Materials and Methods, Results, Discussion, Acknowledgements, References, Tables, Figures, and Figure Legends. Neither the editors nor the publisher are responsible for the opinions expressed by contributors. Manuscripts formally accepted for publication become the permanent property of Baishideng Publishing Group Co., Limited, and may not be reproduced by any means, in whole or in part, without the written permission of both the authors and the publisher. We reserve the right to copy-edit and put onto our website accepted manuscripts. Authors should follow the relevant guidelines for the care and use of laboratory animals of their institution or national animal welfare committee. For the sake of transparency in regard to the performance and reporting of clinical trials, we endorse the policy of the ICMJE to refuse to publish papers on clinical trial results if the trial was not recorded in a publicly-accessible registry at its outset. The only register now available, to our knowledge, is <http://www.clinicaltrials.gov> sponsored by the United States National Library of Medicine and we encourage all potential contributors to register with it. However, in the case that other registers become available you will be duly notified. A letter of recommendation from each author's organization should be provided with the contributed article to ensure the privacy and secrecy of research is protected.

Authors should retain one copy of the text, tables, photographs and illustrations because rejected manuscripts will not be returned to the author(s) and the editors will not be responsible for loss or damage to photographs and illustrations sustained during mailing.

Online submissions

Manuscripts should be submitted through the Online Submission System at: <http://www.wjgnet.com/esps/>. Authors are highly recommended to consult the ONLINE INSTRUCTIONS TO AUTHORS (http://www.wjgnet.com/2220-3168/g_info_20100722180909.htm) before attempting to submit online. For assistance, authors encountering problems with the Online Submission System may send an email describing the problem to wjhypertens@wjgnet.com, or by telephone: +86-10-85381891. If you submit your manuscript online, do not make a postal contribu-

tion. Repeated online submission for the same manuscript is strictly prohibited.

MANUSCRIPT PREPARATION

All contributions should be written in English. All articles must be submitted using word-processing software. All submissions must be typed in 1.5 line spacing and 12 pt. Book Antiqua with ample margins. Style should conform to our house format. Required information for each of the manuscript sections is as follows:

Title page

Title: Title should be less than 12 words.

Running title: A short running title of less than 6 words should be provided.

Authorship: Authorship credit should be in accordance with the standard proposed by ICMJE, based on (1) substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; (2) drafting the article or revising it critically for important intellectual content; and (3) final approval of the version to be published. Authors should meet conditions 1, 2, and 3.

Institution: Author names should be given first, then the complete name of institution, city, province and postcode. For example, Xu-Chen Zhang, Li-Xin Mei, Department of Pathology, Chengde Medical College, Chengde 067000, Hebei Province, China. One author may be represented from two institutions, for example, George Sgourakis, Department of General, Visceral, and Transplantation Surgery, Essen 45122, Germany; George Sgourakis, 2nd Surgical Department, Korgialenio-Benakio Red Cross Hospital, Athens 15451, Greece

Author contributions: The format of this section should be: Author contributions: Wang CL and Liang L contributed equally to this work; Wang CL, Liang L, Fu JF, Zou CC, Hong F and Wu XM designed the research; Wang CL, Zou CC, Hong F and Wu XM performed the research; Xue JZ and Lu JR contributed new reagents/analytic tools; Wang CL, Liang L and Fu JF analyzed the data; and Wang CL, Liang L and Fu JF wrote the paper.

Supportive foundations: The complete name and number of supportive foundations should be provided, e.g. Supported by National Natural Science Foundation of China, No. 30224801

Correspondence to: Only one corresponding address should be provided. Author names should be given first, then author title, affiliation, the complete name of institution, city, postcode, province, country, and email. All the letters in the email should be in lower case. A space interval should be inserted between country name and email address. For example, Montgomery Bissell, MD, Professor of Medicine, Chief, Liver Center, Gastroenterology Division, University of California, Box 0538, San Francisco, CA 94143, United States. montgomery.bissell@ucsf.edu

Telephone and fax: Telephone and fax should consist of +, country number, district number and telephone or fax number, e.g. Telephone: +86-10-85381892 Fax: +86-10-85381893

Peer reviewers: All articles received are subject to peer review. Normally, three experts are invited for each article. Decision for acceptance is made only when at least two experts recommend an article for publication. Reviewers for accepted manuscripts are acknowledged in each manuscript, and reviewers of articles which were not accepted will be acknowledged at the end of each issue. To ensure the quality of the articles published in *WJH*, reviewers of accepted manuscripts will be announced by publishing the name, title/position and institution of the reviewer in the footnote accompanying the printed article. For example, reviewers: Professor Jing-Yuan Fang, Shanghai Institute of Digestive Disease, Shanghai, Affiliated Renji Hospital, Medical Faculty, Shanghai Jiaotong Uni-

versity, Shanghai, China; Professor Xin-Wei Han, Department of Radiology, The First Affiliated Hospital, Zhengzhou University, Zhengzhou, Henan Province, China; and Professor Anren Kuang, Department of Nuclear Medicine, Huaxi Hospital, Sichuan University, Chengdu, Sichuan Province, China.

Abstract

There are unstructured abstracts (no more than 256 words) and structured abstracts (no more than 480). The specific requirements for structured abstracts are as follows:

An informative, structured abstracts of no more than 480 words should accompany each manuscript. Abstracts for original contributions should be structured into the following sections. AIM (no more than 20 words): Only the purpose should be included. Please write the aim as the form of "To investigate/study/...; MATERIALS AND METHODS (no more than 140 words); RESULTS (no more than 294 words): You should present *P* values where appropriate and must provide relevant data to illustrate how they were obtained, e.g. 6.92 ± 3.86 vs 3.61 ± 1.67 , $P < 0.001$; CONCLUSION (no more than 26 words).

Key words

Please list 5-10 key words, selected mainly from *Index Medicus*, which reflect the content of the study.

Text

For articles of these sections, original articles and brief articles, the main text should be structured into the following sections: INTRODUCTION, MATERIALS AND METHODS, RESULTS and DISCUSSION, and should include appropriate Figures and Tables. Data should be presented in the main text or in Figures and Tables, but not in both. The main text format of these sections, editorial, topic highlight, case report, letters to the editors, can be found at: http://www.wjgnet.com/2220-3168/g_info_20100725072755.htm.

Illustrations

Figures should be numbered as 1, 2, 3, *etc.*, and mentioned clearly in the main text. Provide a brief title for each figure on a separate page. Detailed legends should not be provided under the figures. This part should be added into the text where the figures are applicable. Figures should be either Photoshop or Illustrator files (in tiff, eps, jpeg formats) at high-resolution. Examples can be found at: <http://www.wjgnet.com/1007-9327/13/4520.pdf>; <http://www.wjgnet.com/1007-9327/13/4554.pdf>; <http://www.wjgnet.com/1007-9327/13/4891.pdf>; <http://www.wjgnet.com/1007-9327/13/4986.pdf>; <http://www.wjgnet.com/1007-9327/13/4498.pdf>. Keeping all elements compiled is necessary in line-art image. Scale bars should be used rather than magnification factors, with the length of the bar defined in the legend rather than on the bar itself. File names should identify the figure and panel. Avoid layering type directly over shaded or textured areas. Please use uniform legends for the same subjects. For example: Figure 1 Pathological changes in atrophic gastritis after treatment. A: ...; B: ...; C: ...; D: ...; E: ...; F: ...; G: ...*etc.* It is our principle to publish high resolution-figures for the printed and E-versions.

Tables

Three-line tables should be numbered 1, 2, 3, *etc.*, and mentioned clearly in the main text. Provide a brief title for each table. Detailed legends should not be included under tables, but rather added into the text where applicable. The information should complement, but not duplicate the text. Use one horizontal line under the title, a second under column heads, and a third below the Table, above any footnotes. Vertical and italic lines should be omitted.

Notes in tables and illustrations

Data that are not statistically significant should not be noted. ^a $P < 0.05$, ^b $P < 0.01$ should be noted ($P > 0.05$ should not be noted). If there are other series of *P* values, ^c $P < 0.05$ and ^d $P < 0.01$ are used. A third series of *P* values can be expressed as ^e $P < 0.05$ and ^f $P < 0.01$. Other notes in tables or under illustrations should be expressed as ¹F, ²F,

Instructions to authors

³F; or sometimes as other symbols with a superscript (Arabic numerals) in the upper left corner. In a multi-curve illustration, each curve should be labeled with ●, ○, ■, □, ▲, △, etc., in a certain sequence.

Acknowledgments

Brief acknowledgments of persons who have made genuine contributions to the manuscript and who endorse the data and conclusions should be included. Authors are responsible for obtaining written permission to use any copyrighted text and/or illustrations.

REFERENCES

Coding system

The author should number the references in Arabic numerals according to the citation order in the text. Put reference numbers in square brackets in superscript at the end of citation content or after the cited author's name. For citation content which is part of the narration, the coding number and square brackets should be typeset normally. For example, "Crohn's disease (CD) is associated with increased intestinal permeability^[1,2]". If references are cited directly in the text, they should be put together within the text, for example, "From references^[19,22-24], we know that..."

When the authors write the references, please ensure that the order in text is the same as in the references section, and also ensure the spelling accuracy of the first author's name. Do not list the same citation twice.

PMID and DOI

Please provide PubMed citation numbers to the reference list, e.g. PMID and DOI, which can be found at <http://www.ncbi.nlm.nih.gov/sites/entrez?db=pubmed> and <http://www.crossref.org/SimpleTextQuery/>, respectively. The numbers will be used in E-version of this journal.

Style for journal references

Authors: the name of the first author should be typed in bold-faced letters. The family name of all authors should be typed with the initial letter capitalized, followed by their abbreviated first and middle initials. (For example, Lian-Sheng Ma is abbreviated as Ma LS, Bo-Rong Pan as Pan BR). The title of the cited article and italicized journal title (journal title should be in its abbreviated form as shown in PubMed), publication date, volume number (in black), start page, and end page [PMID: 11819634 DOI: 10.3748/wjg.13.5396].

Style for book references

Authors: the name of the first author should be typed in bold-faced letters. The surname of all authors should be typed with the initial letter capitalized, followed by their abbreviated middle and first initials. (For example, Lian-Sheng Ma is abbreviated as Ma LS, Bo-Rong Pan as Pan BR) Book title. Publication number. Publication place: Publication press, Year: start page and end page.

Format

Journals

English journal article (list all authors and include the PMID where applicable)

- 1 **Jung EM**, Clevert DA, Schreyer AG, Schmitt S, Rennert J, Kubale R, Feuerbach S, Jung F. Evaluation of quantitative contrast harmonic imaging to assess malignancy of liver tumors: A prospective controlled two-center study. *World J Gastroenterol* 2007; **13**: 6356-6364 [PMID: 18081224 DOI: 10.3748/wjg.13.6356]

Chinese journal article (list all authors and include the PMID where applicable)

- 2 **Lin GZ**, Wang XZ, Wang P, Lin J, Yang FD. Immunologic effect of Jianpi Yishen decoction in treatment of Pixu-diarhoea. *Shijie Huaren Xiaohua Zazhi* 1999; **7**: 285-287

In press

- 3 **Tian D**, Araki H, Stahl E, Bergelson J, Kreitman M. Signature of balancing selection in Arabidopsis. *Proc Natl Acad Sci USA* 2006; In press

Organization as author

- 4 **Diabetes Prevention Program Research Group**. Hyperten-

sion, insulin, and proinsulin in participants with impaired glucose tolerance. *Hypertension* 2002; **40**: 679-686 [PMID: 12411462 PMCID:2516377 DOI:10.1161/01.HYP.0000035706.28494.09]

Both personal authors and an organization as author

- 5 **Vallancien G**, Emberton M, Harving N, van Moorselaar RJ; Alf-One Study Group. Sexual dysfunction in 1, 274 European men suffering from lower urinary tract symptoms. *J Urol* 2003; **169**: 2257-2261 [PMID: 12771764 DOI:10.1097/01.ju.0000067940.76090.73]

No author given

- 6 21st century heart solution may have a sting in the tail. *BMJ* 2002; **325**: 184 [PMID: 12142303 DOI:10.1136/bmj.325.7357.184]

Volume with supplement

- 7 **Geraud G**, Spierings EL, Keywood C. Tolerability and safety of frovatriptan with short- and long-term use for treatment of migraine and in comparison with sumatriptan. *Headache* 2002; **42** Suppl 2: S93-99 [PMID: 12028325 DOI:10.1046/j.1526-4610.42.s2.7.x]

Issue with no volume

- 8 **Banit DM**, Kaufer H, Hartford JM. Intraoperative frozen section analysis in revision total joint arthroplasty. *Clin Orthop Relat Res* 2002; (**401**): 230-238 [PMID: 12151900 DOI:10.1097/00003086-200208000-00026]

No volume or issue

- 9 Outreach: Bringing HIV-positive individuals into care. *HRS-A Careaction* 2002; 1-6 [PMID: 12154804]

Books

Personal author(s)

- 10 **Sherlock S**, Dooley J. Diseases of the liver and biliary system. 9th ed. Oxford: Blackwell Sci Pub, 1993: 258-296

Chapter in a book (list all authors)

- 11 **Lam SK**. Academic investigator's perspectives of medical treatment for peptic ulcer. In: Swabb EA, Azabo S. Ulcer disease: investigation and basis for therapy. New York: Marcel Dekker, 1991: 431-450

Author(s) and editor(s)

- 12 **Breedlove GK**, Schorfeide AM. Adolescent pregnancy. 2nd ed. Wiczorek RR, editor. White Plains (NY): March of Dimes Education Services, 2001: 20-34

Conference proceedings

- 13 **Harnden P**, Joffe JK, Jones WG, editors. Germ cell tumours V. Proceedings of the 5th Germ cell tumours Conference; 2001 Sep 13-15; Leeds, UK. New York: Springer, 2002: 30-56

Conference paper

- 14 **Christensen S**, Oppacher F. An analysis of Koza's computational effort statistic for genetic programming. In: Foster JA, Lutton E, Miller J, Ryan C, Tettamanzi AG, editors. Genetic programming. EuroGP 2002: Proceedings of the 5th European Conference on Genetic Programming; 2002 Apr 3-5; Kinsdale, Ireland. Berlin: Springer, 2002: 182-191

Electronic journal (list all authors)

- 15 Morse SS. Factors in the emergence of infectious diseases. Emerg Infect Dis serial online, 1995-01-03, cited 1996-06-05; 1(1): 24 screens. Available from: URL: <http://www.cdc.gov/ncidod/eid/index.htm>

Patent (list all authors)

- 16 **Pagedas AC**, inventor; Ancel Surgical R&D Inc., assignee. Flexible endoscopic grasping and cutting device and positioning tool assembly. United States patent US 20020103498. 2002 Aug 1

Statistical data

Write as mean \pm SD or mean \pm SE.

Statistical expression

Express *t* test as *t* (in italics), *F* test as *F* (in italics), chi square test as χ^2 (in Greek), related coefficient as *r* (in italics), degree of freedom as *ν* (in Greek), sample number as *n* (in italics), and probability as *P* (in italics).

Units

Use SI units. For example: body mass, m (B) = 78 kg; blood pressure, p (B) = 16.2/12.3 kPa; incubation time, t (incubation) = 96 h; blood glucose concentration, c (glucose) 6.4 ± 2.1 mmol/L; blood CEA mass concentration, p (CEA) = 8.6 24.5 $\mu\text{g/L}$; CO_2 volume fraction, 50 mL/L CO_2 , not 5% CO_2 ; likewise for 40 g/L formaldehyde, not 10% formalin; and mass fraction, 8 ng/g, *etc.* Arabic numerals such as 23, 243, 641 should be read 23 243 641.

The format for how to accurately write common units and quantum numbers can be found at: http://www.wjgnet.com/2220-3168/g_info_20100725073806.htm.

Abbreviations

Standard abbreviations should be defined in the abstract and on first mention in the text. In general, terms should not be abbreviated unless they are used repeatedly and the abbreviation is helpful to the reader. Permissible abbreviations are listed in Units, Symbols and Abbreviations: A Guide for Biological and Medical Editors and Authors (Ed. Baron DN, 1988) published by The Royal Society of Medicine, London. Certain commonly used abbreviations, such as DNA, RNA, HIV, LD50, PCR, HBV, ECG, WBC, RBC, CT, ESR, CSF, IgG, ELISA, PBS, ATP, EDTA, mAb, can be used directly without further explanation.

Italics

Quantities: t time or temperature, c concentration, A area, l length, m mass, V volume.

Genotypes: *gyrA*, *arg 1*, *c myc*, *c fos*, *etc.*

Restriction enzymes: *EcoRI*, *HindI*, *BamHI*, *Kho I*, *Kpn I*, *etc.*

Biology: *H. pylori*, *E. coli*, *etc.*

Examples for paper writing

Editorial: http://www.wjgnet.com/2220-3168/g_info_20100725071851.htm

Frontier: http://www.wjgnet.com/2220-3168/g_info_20100725071932.htm

Topic highlight: http://www.wjgnet.com/2220-3168/g_info_20100725072121.htm

Observation: http://www.wjgnet.com/2220-3168/g_info_20100725072232.htm

Guidelines for basic research: http://www.wjgnet.com/2220-3168/g_info_20100725072344.htm

Guidelines for clinical practice: http://www.wjgnet.com/2220-3168/g_info_20100725072543.htm

Review: http://www.wjgnet.com/2220-3168/g_info_20100725072656.htm

Original articles: http://www.wjgnet.com/2220-3168/g_info_20100725072755.htm

Brief articles: http://www.wjgnet.com/2220-3168/g_info_20100725072920.htm

Case report: http://www.wjgnet.com/2220-3168/g_info_20100725073015.htm

Letters to the editor: http://www.wjgnet.com/2220-3168/g_info_20100725073136.htm

Book reviews: http://www.wjgnet.com/2220-3168/g_info_20100725073214.htm

Guidelines: http://www.wjgnet.com/2220-3168/g_info_20100725073300.htm

SUBMISSION OF THE REVISED MANUSCRIPTS AFTER ACCEPTED

Authors must revise their manuscript carefully according to the revision policies of Baishideng Publishing Group Co., Limited. The revised version, along with the signed copyright transfer agreement, responses to the reviewers, and English language Grade B certificate (for non-native speakers of English), should be submitted to the online system *via* the link contained in the e-mail sent by the editor. If you have any questions about the revision, please send e-mail to esps@wjgnet.com.

Language evaluation

The language of a manuscript will be graded before it is sent for revision. (1) Grade A: priority publishing; (2) Grade B: minor language polishing; (3) Grade C: a great deal of language polishing needed; and (4) Grade D: rejected. Revised articles should reach Grade A or B.

Copyright assignment form

Please download a Copyright assignment form from http://www.wjgnet.com/2220-3168/g_info_20100725073726.htm.

Responses to reviewers

Please revise your article according to the comments/suggestions provided by the reviewers. The format for responses to the reviewers' comments can be found at: http://www.wjgnet.com/2220-3168/g_info_20100725073445.htm.

Proof of financial support

For paper supported by a foundation, authors should provide a copy of the document and serial number of the foundation.

Links to documents related to the manuscript

WJH will be initiating a platform to promote dynamic interactions between the editors, peer reviewers, readers and authors. After a manuscript is published online, links to the PDF version of the submitted manuscript, the peer-reviewers' report and the revised manuscript will be put on-line. Readers can make comments on the peer reviewer's report, authors' responses to peer reviewers, and the revised manuscript. We hope that authors will benefit from this feedback and be able to revise the manuscript accordingly in a timely manner.

Science news releases

Authors of accepted manuscripts are suggested to write a science news item to promote their articles. The news will be released rapidly at EurekAlert/AAAS (<http://www.eurekalert.org>). The title for news items should be less than 90 characters; the summary should be less than 75 words; and main body less than 500 words. Science news items should be lawful, ethical, and strictly based on your original content with an attractive title and interesting pictures.

Publication fee

WJH is an international, peer-reviewed, OA, online journal. Articles published by this journal are distributed under the terms of the Creative Commons Attribution Non-commercial License, which permits use, distribution, and reproduction in any medium, provided the original work is properly cited, the use is non commercial and is otherwise in compliance with the license. Authors of accepted articles must pay a publication fee. Publication fee: 600 USD per article. Editorial, topic highlights, book reviews and letters to the editor are published free of charge.