

World Journal of *Otorhinolaryngology*

World J Otorhinolaryngol 2014 February 28; 4(1): 1-5



Editorial Board

2011-2015

The *World Journal of Otorhinolaryngology* Editorial Board consists of 159 members, representing a team of worldwide experts in otorhinolaryngology. They are from 29 countries, including Australia (1), Austria (2), Belgium (5), Brazil (2), China (9), Colombia (1), Czech Republic (1), Denmark (1), Egypt (6), Germany (8), Greece (8), Hungary (1), India (12), Iran (4), Israel (6), Italy (14), Japan (7), New Zealand (1), Nigeria (1), Norway (1), Poland (1), Singapore (2), South Korea (4), Spain (3), Sweden (1), Switzerland (1), Turkey (15), United Kingdom (4), and United States (37).

EDITORS-IN-CHIEF

Tsutomu Nakashima, *Nagoya*
Steven J Wang, *San Francisco*

GUEST EDITORIAL BOARD MEMBERS

Mu-Kuan Chen, *Changhua*
Sheng Hwa Chen, *Taipei*
Tuan-Jen Fang, *Keelung*
Chao-Cheng Huang, *Kaohsiung*
Hsin-Ching Lin, *Kaohsiung*

MEMBERS OF THE EDITORIAL BOARD



Australia

Anne Elizabeth Vertigan, *Newcastle*



Austria

Christoph Arnoldner, *Vienna*
Dietmar Thurnher, *Vienna*



Belgium

Philippe Henri Dejonckere, *Brussels*
Joris Joris Dirckx, *Antwerp*
Amr Essam El-Shazly, *Liege*
Philippe Rombaux, *Brussels*
Robby Vanspauwen, *Antwerp*



Brazil

Maria Cristina Chammas, *São Paulo*
Etiene de Andrade Munhoz, *Porto Alegre*



China

Anna Chishan Kam, *Hong Kong*
Hua-Bin Li, *Guangzhou*
Jian-Chun Liao, *Shanghai*
Zheng Liu, *Wuhan*



Colombia

Luis M Ramirez Aristeguieta, *Medellin*



Czech Republic

Jan Vodicka, *Pardubice*



Denmark

Jesper Dammeyer, *Copenhagen*



Egypt

Tarek Abdelhameed Abulezz, *Sohag*
Omar A El-Banhawy, *El-Dakahlia*
Sherifa Ahmed Hamed, *Assiut*
Emad Ahmed Magdy, *Alexandria*
Badr Eldin Mostafa, *Cairo*
Sameh Ibrahim Sersar, *Mansoura*



Germany

Andreas Bahmer, *Frankfurt am Main*
Carsten Christof Boedeker, *Freiburg*

Raphael Richard Ciunan, *Gelsenkirchen*
Jessica Freiherr, *Aachen*
Haralampos Gouveris, *Mainz*
Markus Hambek, *Frankfurt*
Hamidreza Mojallal, *Hannover*
Leif Erik Walther, *Sulzbach*



Greece

Anna Eleftheriadou, *Rethymnon*
Tsakiropoulou Evangelia, *Thessaloniki*
G Michael-Minas Fragkiadakis, *Heraklion*
Vasiliki Vivian Iliadou, *Thessaloniki*
Alexander Dimitrios Karatzanis, *Heraklion*
George I Noussios, *Serres*
Theodossis S Papavramidis, *Thessaloniki*
Maria George Riga, *Alexandroupolis*



Hungary

László Robert Rovó, *Szeged*



India

Prakash Singh Bisen, *Jhansi*
Muthuswamy Dhiwakar, *Coimbatore*
Prahald Duggal, *Amritsar*
Bulbul Gupta, *Delhi*
Ajith Kumar U, *Mysore*
Satish Nair, *Delhi Cantt*
Vijaya Kumar Narne, *Mysore*
Ravi Chandran Nayar, *Bangalore*
Ashwani Sethi, *New Delhi*
Ashok Kumar Sinha, *Kolkata*
Alok Thakar, *New Delhi*
Jagdeep S Thakur, *Shimla*

**Iran**

Fatemeh Hassannia, *Tehran*
 Mohsen Naraghi, *Tehran*
 Mehrdad Nooranipour, *Tehran*
 Mohammad Sadeghi, *Tehran*

**Israel**

Itzhak Braverman, *Hadera*
 Haim Gavriel, *Zerifin*
 Menachem Gross, *Jerusalem*
 Avi Hefetz Khafif, *Ramat-Hasharon*
 Daniel M Kaplan Mha, *Omer*
 Michael Vaiman, *Bat Yam*

**Italy**

Marco Berlucchi, *Brescia*
 Giovanni Blandino, *Rome*
 Francesco Bussu, *Rome*
 Giuseppe Caruso, *Siena*
 Alessandro De Stefano, *Taranto*
 Alberto Deganello, *Florence*
 Francesco Dispenza, *Palermo*
 Alfio Ferlito, *Udine*
 Alessandro Franchi, *Florence*
 Paolo Gasparini, *Trieste*
 Dario Gregori, *Padova*
 Stavros D Hatzopoulos, *Ferrara*
 Gino Marioni, *Padova*
 Giacomo Pata, *Brescia*

**Japan**

Arata Horii, *Osaka*
 Sho Kanzaki, *Tokyo*
 Nejat Mahdieh, *Shizuoka*
 Nobuhiko Oridate, *Sapporo*
 Akihiro Shiotani, *Saitama*
 Keiji Tabuchi, *Tsukuba*

**New Zealand**

Srdjan Vlajkovic, *Auckland*

**Nigeria**

Bolajoko O Olusanya, *Lagos*

**Norway**

Vinay Swarnalatha Nagaraj, *Trondheim*

**Poland**

W Wiktor Jedrzejczak, *Warsaw*

**Singapore**

Gopalakrishna Iyer, *Singapore*
 De-Yun Wang, *Singapore*

**South Korea**

Yong Ju Jang, *Seoul*
 Han Su Kim, *Seoul*
 Sang Hag Lee, *Seoul*
 Raekil Park, *Iksan*

**Spain**

Mario A Hermsen, *Oviedo*
 Adolfo Toledano Muñoz, *Alcorcón*
 Enrique Zapater-Latorre, *Valencia*

**Sweden**

Zhe Jin, *Uppsala*

**Switzerland**

Thomas Nicola Roth, *Zurich*

**Turkey**

Atilla Arslanoglu, *Ankara*
 Murat Caloglu, *Edirne*
 Ali Coskun, *Izmir*
 Alper Nabi Erkan, *Adana*
 Muhammed Fatih Evcimik, *Istanbul*
 Mustafa Gul, *Kahramanmaras*
 Mehmet Gunduz, *Ankara*
 Samet Vasfi Kuvat, *Istanbul*
 Nuray Bayar Muluk, *Ankara*

Nesrin Bozdogan Ozyilkan, *Adana*
 Murat Songu, *Izmir*
 Rauf Tahamiler, *Istanbul*
 Murat Unal, *Mersin*
 Sidika Deniz Micozkadioglu Yalim, *Adana*
 Yavuz Selim Yildirim, *Istanbul*

**United Kingdom**

Ruth Epstein, *London*
 Ahmed Eweiss, *Gloucester*
 Jonathan Charles Hobson, *Manchester*
 Petros V Vlastarakos, *Stevenage*

**United States**

Ahmed Kamel Abdel Aal, *Birmingham*
 Thomas Jay Balkany, *Miami*
 Samuel S Becker, *Sewell*
 Annie W Chan, *Boston*
 Rakesh Kumar Chandra, *Chicago*
 Allen M Chen, *Sacramento*
 Nipun Chhabra, *Cleveland*
 Donald E Coling, *Buffalo*
 Didier A Depireux, *College Park*
 Dalian Ding, *New York*
 Richard L Doty, *Philadelphia*
 James Paul Dworkin, *Detroit*
 Ivan H El-Sayed, *San Francisco*
 Bharat Guthikonda, *Baton Rouge*
 Patrick Kyongmin Ha, *Baltimore*
 Jeffrey Allen Koempel, *Los Angeles*
 Kevin W Lollar, *Columbia*
 Lori Lombard, *Indiana*
 Ron B Mitchell, *St Louis*
 Larry Leonard Myers, *Dallas*
 Kevin K Ohlemiller, *Saint Louis*
 Fred A Pereira, *Houston*
 Sonja J Pyott, *Wilmington*
 Sophia Ran, *Springfield*
 Claus-Peter Richter, *Chicago*
 James M Ridgway, *Seattle*
 Richard Allen Roberts, *Foley*
 Peter S Roland, *Dallas*
 Soya Sisy Sam, *Saginaw*
 Chris A Sanford, *Pocatello*
 Ashok R Shaha, *New York*
 Abraham Shulman, *Brooklyn*
 Jeffrey Howard Spiegel, *Boston*
 Rohan R Walvekar, *New Orleans*
 Gregory Thomas Wolf, *Ann Arbor*
 Kathleen Yaremchuk, *Detroit*



BRIEF ARTICLE

- 1 Classic clamp-and-tie total thyroidectomy for large goiters in the modern era:
To drain or not to drain?
*Papavramidis TS, Pliakos I, Michalopoulos N, Mistriotis G, Panteli N, Gkoutzamanis G,
Papavramidis S*

APPENDIX I-V Instructions to authors

ABOUT COVER Editorial Board Member of *World Journal of Otorhinolaryngology*, Theodossis S Papavramidis, MD, PhD, 3rd Department of Surgery, AHEPA University Hospital, Aristotle University of Thessaloniki, 6 Aigaiou Str., 54655 Thessaloniki, Greece

AIM AND SCOPE *World Journal of Otorhinolaryngology* (*World J Otorhinolaryngol*, *WJO*, online ISSN 2218-6247, DOI: 10.5319) is a peer-reviewed open access academic journal that aims to guide clinical practice and improve diagnostic and therapeutic skills of clinicians.

WJO covers topics concerning endoscopy, rhinology, pharyngology, laryngology, tracheo-esophagology, otology, tracheology, cancer, nasal symptomatology, congenital nasal diseases, inflammatory diseases of the external nose, rhinitis, allergic rhinitis, nasal polyps, nasal septal diseases, nasal bleeding, nasal or sinus foreign bodies, sinusitis, rhinogenic complications, diagnostic imaging, evidence-based medicine, epidemiology and nursing. Priority publication will be given to articles concerning diagnosis and treatment of otorhinolaryngologic diseases. The following aspects are covered: Clinical diagnosis, laboratory diagnosis, differential diagnosis, imaging tests, pathological diagnosis, molecular biological diagnosis, immunological diagnosis, genetic diagnosis, functional diagnostics, and physical diagnosis; and comprehensive therapy, drug therapy, surgical therapy, interventional treatment, minimally invasive therapy, and robot-assisted therapy.

We encourage authors to submit their manuscripts to *WJO*. We will give priority to manuscripts that are supported by major national and international foundations and those that are of great basic and clinical significance.

INDEXING/ABSTRACTING *World Journal of Otorhinolaryngology* is now indexed in Digital Object Identifier.

FLYLEAF I-II Editorial Board

EDITORS FOR THIS ISSUE

Responsible Assistant Editor: *Xin-Xin Che*
Responsible Electronic Editor: *Cai-Hong Wang*
Proofing Editor-in-Chief: *Lian-Sheng Ma*

Responsible Science Editor: *Huan-Huan Zhai*

NAME OF JOURNAL
World Journal of Otorhinolaryngology

ISSN
ISSN 2218-6247 (online)

LAUNCH DATE
December 28, 2011

FREQUENCY
Quarterly

EDITORS-IN-CHIEF
Tsutomu Nakashima, MD, PhD, Professor, Department of Otorhinolaryngology, Nagoya University Graduate School of Medicine, 65, Tsurumai-cho, Showa-ku, Nagoya 466-8550, Japan

Steven J Wang, MD, FACS, Associate Professor in Residence, Department of Otolaryngology-Head and Neck Surgery, University of California, San Francisco, 2233 Post St, 3rd Floor-Box 1225, San Francisco, CA 94115, United States

EDITORIAL OFFICE
Jin-Lei Wang, Director
Xiu-Xia Song, Vice Director
World Journal of Otorhinolaryngology
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: wjotorhinolaryngol@wjnet.com
<http://www.wjnet.com>

PUBLISHER
Baishideng Publishing Group Co., Limited
Flat C, 23/F, Lucky Plaza,
315-321 Lockhart Road, Wan Chai,
Hong Kong, China
Fax: +852-6555-7188
Telephone: +852-3177-9906
E-mail: bpgoffice@wjnet.com
<http://www.wjnet.com>

PUBLICATION DATE
February 28, 2014

COPYRIGHT
© 2014 Baishideng. Articles published by this Open Access 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.

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

INSTRUCTIONS TO AUTHORS
Full instructions are available online at http://www.wjnet.com/2218-6247/g_info_20100722180338.htm

ONLINE SUBMISSION
<http://www.wjnet.com/esps/>

Classic clamp-and-tie total thyroidectomy for large goiters in the modern era: To drain or not to drain?

Theodossis S Papavramidis, Ioannis Pliakos, Nick Michalopoulos, George Mistriotis, Niko Panteli, George Gkoutzamanis, Spiros Papavramidis

Theodossis S Papavramidis, Ioannis Pliakos, Nick Michalopoulos, George Mistriotis, Niko Panteli, George Gkoutzamanis, Spiros Papavramidis, 3rd Department of Surgery, AHEPA University Hospital, Aristotle University of Thessaloniki, 54655 Thessaloniki, Greece

Author contributions: All the authors contributed to this paper equally.

Correspondence to: Theodossis S Papavramidis, MD, PhD, 3rd Department of Surgery, AHEPA University Hospital, Aristotle University of Thessaloniki, 6 Aigaïou Str., 54655 Thessaloniki, Greece. papavramidis@hotmail.com

Telephone: +30-694-4536972 Fax: +30-694-4536972

Received: June 9, 2013 Revised: October 28, 2013

Accepted: December 9, 2013

Published online: February 28, 2014

especially when cTT is performed in nonspecialized departments.

© 2014 Baishideng Publishing Group Co., Limited. All rights reserved.

Key words: Total thyroidectomy; Drains; Postoperative complications; Postoperative hemorrhage; Discomfort

Core tip: The present aim is to elucidate the significance of drains in thyroid surgery for large goiters in the modern era. The authors conclude that there are two major parameters that influence the placement of drains: the surgeon's experience and the patient's discomfort.

Abstract

AIM: To evaluate the role of drains in clamp-and-tie total thyroidectomy (cTT) for large goiters.

METHODS: A hundred patients were randomized into group D (drains maintained for 24 h) and ND (no drains). We recorded epidemiological characteristics, thyroid pathology, hemostatic material, intraoperative events, operative time and difficulty, blood loss, biochemical and hematological data, postoperative vocal alteration and pain, discomfort, complications, blood in drains, and hospitalization.

RESULTS: The groups had comparable preoperative characteristics, pathology, intraoperative and postoperative data. Hemostatic material was used in all patients of group ND. Forty patients in group D and 9 in ND felt discomfort ($P < 0.001$).

CONCLUSION: Drains in cTT for large goiters give no advantage or disadvantage to the surgeon. The only "major disadvantage" is the discomfort for the patient. Inversely, drains probably influence surgeons' serenity,

Papavramidis TS, Pliakos I, Michalopoulos N, Mistriotis G, Panteli N, Gkoutzamanis G, Papavramidis S. Classic clamp-and-tie total thyroidectomy for large goiters in the modern era: to drain or not to drain? *World J Otorhinolaryngol* 2014; 4(1): 1-5 Available from: URL: <http://www.wjgnet.com/2218-6247/full/v4/i1/1.htm> DOI: <http://dx.doi.org/10.5319/wjo.v4.i1.1>

INTRODUCTION

Total thyroidectomy (TT) is nowadays considered a "routine" operation in specialized endocrine departments. This operation can be performed either by classic incisions (Kocher or Sofferan) or by minimal scar techniques. Conventional clamp-and-tie thyroidectomy consists of devascularization of the thyroid by double ligating and dividing the branches of the thyroid vessels, followed by excision of the gland. During thyroid surgery, adequate hemostasis and keeping the operative field dry and clean is of utmost importance. Suture ligations are time-consuming, carry the risk of knot slipping, and are not suitable for endoscopic surgery^[1]. For that reason,

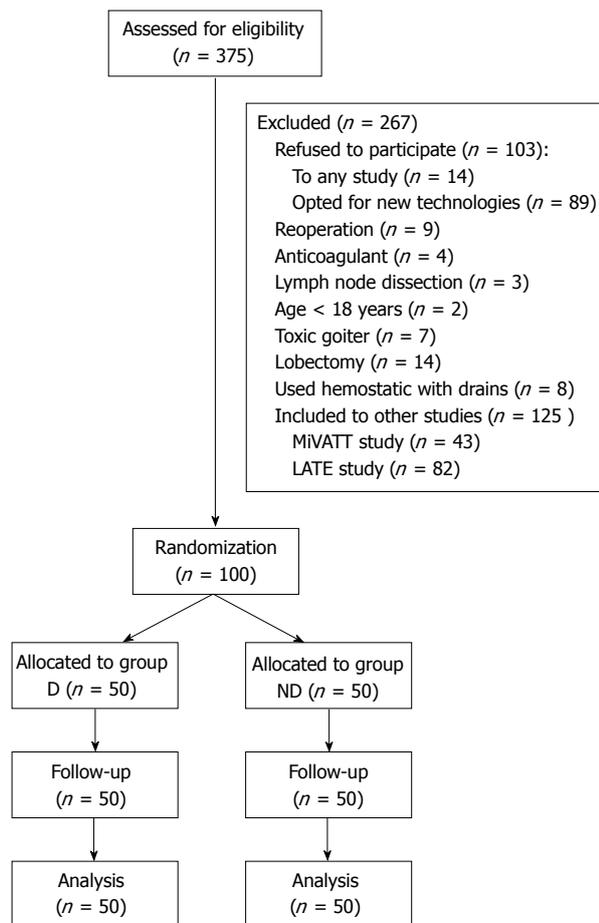


Figure 1 Flow diagram of the study.

new energy sources and methods of hemostasis have been used in the last years in thyroid surgery with great effectiveness. However, the classic clamp-and-tie thyroidectomy has not been abandoned and is frequently employed in general surgery departments, either due to the unavailability of new technologies or to a lack of training in other techniques. Whatever the method of hemostasis, when TT is performed, it is of prime importance to achieve accurate and efficient hemostasis in order to minimize complications.

Since meticulous hemostasis is of prime importance in every type of thyroid surgery, the use of draining tubes seems paradoxical. With small volume goiters, the above statement may be true; however, this is not the case in large goiters, especially those performed with the classic clamp-and-tie technique. From that perspective, the present prospective randomized trial was designed, aiming to evaluate the necessity of drains when a clamp-and-tie total thyroidectomy (cTT) is performed for a large goiter.

MATERIALS AND METHODS

The present prospective randomized trial was approved by the ethics committee of AHEPA University Hospital. It was registered to ClinicalTrials.gov (identifier: NCT00691990). The registration period for the study

lasted from 1st July, 2008 to 31st December, 2010.

The inclusion criteria were: (1) acceptance to participate in the study (signed informed consent form); (2) age > 18 years; and (3) a scheduled cTT. The exclusion criteria were: (1) participation in another clinical trial which affects outcomes (small volume thyroids < 50 mL were included in other studies); (2) a previous thyroid operation; (3) a toxic condition; and (4) anticoagulation treatment. Figure 1 displays the flow diagram of the study. One hundred adult patients with benign or malignant thyroid disease scheduled for classic total thyroidectomy at the 3rd Department of Surgery of AHEPA University Hospital of Thessaloniki were randomized into 2 groups according to whether drains were going to be used (group D) or not (group ND). Randomization was performed by using computer-generated tables immediately after the assessment for eligibility.

Classic TT was performed with patients in the supine position with the head slightly hyperextended^[2]. All procedures were performed by a team dedicated to endocrine surgery. Preoperative laryngoscopy was performed in all patients to assess vocal cord motility. A 4 cm cervicotomy was performed. Ligatures were done with resorbable 4-0 vicryl ligatures; in group D, a 14 French negative pressure drain was placed, whereas in group ND no drain was placed. Both groups received 2 doses of 40 mg parecoxib sodium, one at the end of the operation and one 12 h later. Anesthesia was standardized following the protocol proposed by Andrieu *et al*^[3]. Patients were premedicated with hydroxyzine (1.5 mg/kg orally) 2 h before surgery. General anesthesia was induced using propofol (2-3 mg/kg) and sufentanil (0.3 mg/kg). Tracheal intubation was facilitated by the administration of atracurium (0.5 mg/kg). General anesthesia was maintained with sevoflurane (0.5%-1.8%) in an oxygen-nitrous oxide mixture (60/40%). The sevoflurane was adjusted to maintain a bispectral index (Aspect Medical Systems, Inc., Newton, MA) between 40 and 60. Additional doses of sufentanil (0.15 mg/kg) were administered for variations of systolic blood pressure and heart rate of > 20% when compared with the values measured before operation.

The following data were recorded: age, gender, body mass index, American Society of Anesthesiologists (ASA) status, medications, thyroid pathology and weight, use of hemostatic material, intraoperative events/complications, duration of the operation, intraoperative blood loss, operative difficulty, calcemia (preoperative, postoperative), preoperative and postoperative standard biochemical and hematological data (SGOT, SGPT, LDH, Glc, Ure, Cre, K⁺, Na⁺, Mg²⁺, TP, ALB, fT3, fT4, TSH, PTH, PT, aPTT, INR, Ht, Hgb, WBC), preoperative and postoperative vocal motility, postoperative vocal alteration, postoperative pain, discomfort, complications, blood in the drains, and length of hospital stay.

Operative difficulty was assessed by a rating scale ranging from 1 (very easy) to 5 (very difficult). Postoperative voice alteration was assessed by a VAS, ranging from 1 (no voice alteration) to 10 (worst imaginable alteration). Postoperative pain was assessed by a visual analogue scale

Table 1 Epidemiological characteristics of both groups (mean \pm SD)

	Group D (n = 50)	Group ND (n = 50)
Sex (male/female)	4/46	6/44
Age (yr)	47.0 \pm 5.6	51.4 \pm 10.5
Body mass index (kg/m ²)	27.35 \pm 5.15	28.08 \pm 6.06
ASA score	1.64 \pm 0.71	1.42 \pm 0.67
Pathology		
Benign	43	45
Malignant	7	5
Thyroid weight (g)	51.8 \pm 34.5	49.4 \pm 34.4
Use of hemostatic material	No	Yes
Duration of operation (min)	98.5 \pm 14.1	94.6 \pm 13.9
Intraoperative blood loss (mL)	26.7 \pm 18.9	24.8 \pm 21.3
Blood in the drains (mL)	76.3 \pm 44.4	-
Operative difficulty	1.90 \pm 0.54	1.96 \pm 0.53
Pain VAS score	1.58 \pm 1.60	1.68 \pm 1.59
Discomfort	40	9
Complications (no of patients)		
Transitory RLN palsy	1	1
Transitory hypoparathyroidism	7	5
Bruising	1	4

Group D: Drains maintained for 24 h; Group ND: No drains. ASA: American Society of Anesthesiologists; RLN: Recurrent laryngeal nerve.

(VAS), ranging from 1 (no pain) to 10 (worst imaginable pain). Pain and voice alterations were evaluated by the patient, whereas operative difficulty was assessed by an observing surgeon. The observing surgeon was the same for all operations. Discomfort was evaluated using a yes or no question.

Calcemia was determined every postoperative day until hospital discharge. Clinical hypocalcemia was defined as total calcium $<$ 8.2 mg/dL, associated with a positive Chvostek or Trousseau sign or a patient complaint of paresthesia.

RESULTS

A total of 375 patients were assessed for eligibility but only 100 were included in this trial (Figure 1). The volunteers were divided into two groups. The epidemiological characteristics of both groups are presented in Table 1. Both groups were comparable preoperatively concerning age, male/female ratio, body mass index and ASA score.

The pathology evaluation revealed benign disease in 88 patients (43 in group D and 45 in group ND) and malignant disease in 12 patients. Intraoperative blood loss, duration of the operation and operative difficulty were comparable for both groups. Hemostatic material was used in all of the patients in group ND. The suction drain was maintained for 24 h in all group D patients regardless of the content of the drains.

There was no postoperative hemorrhage with compromised airway in any patient. Thus, surgical evacuation of the hematoma was not required. From this perspective, 4 patients in group ND and 1 patient in group D presented with bruising in the area of operation. The levels of postoperative pain (measured in the VAS scale)

were comparable between the two groups. Permanent unilateral recurrent laryngeal nerve (RLN) injury was not observed; however, transient RLN palsy was noticed in 1 patient in each group. Permanent hypoparathyroidism was not observed in any patient; however, transient hypoparathyroidism occurred in 12 patients (7 in group D and 5 in group ND). Those patients were treated as pre-planned (see section material and methods). Finally, 40 patients from group D and 9 patients from group ND felt discomfort ($P < 0.001$).

DISCUSSION

Drains or no drains after thyroid surgery? This seems to be an obsolete question for specialized units in thyroid surgery. New technologies and hyperspecialization make the answer appear obvious: no drains. However, the above mentioned two conditions are not fulfilled for the majority of patients and the majority of departments. Most patients around the globe are operated on in general surgery departments that perform the classic clamp-and-tie technique with no advanced hemostatic devices. By performing this clinical trial, we aim to evaluate the effect that drains have when executing a classic clamp-and-tie thyroidectomy for large goiters (more than 50 mL).

When designing the present study, we included only patients scheduled for cTT in order to establish a homogenous population. In this way, the effects of new hemostatic technologies and the effect of partial thyroidectomies were eliminated. No patients with a previous operation of the thyroid gland were included to avoid possible alteration of the regional anatomy. Additionally, patients participating in other clinical trials that could potentially affect this study's outcomes were also excluded (*e.g.*, patients with preoperative thyroid volumes less than 50 mL). Patients receiving anticoagulation treatment for other medical conditions were excluded in order to minimize the probability of bleeding due to anticoagulation treatment. For the same reason, we excluded the 7 patients screened that were not in euthyroid condition (toxic). What is noteworthy is that we expected a higher percentage of acceptances to participate in the study. Surprisingly, 89 patients (24.25%) refused to participate in the study because they opted for the use of new technologies. Happily, this seemed to have no impact on the studied population characteristics. This was further confirmed by the fact that the epidemiological characteristics of the present study are comparable to our previous studies^[2,4-6]. We should, however, notice that patients exhibit a clear preference towards total thyroidectomies performed using new technologies rather than the classic clamp-and-tie technique, even when assured that complication rates and hospitalization are comparable^[2,4].

Complications associated with thyroid surgery occur regardless of the technique employed. Nowadays, there are two major complications related to total thyroidectomies: iatrogenic hypoparathyroidism and RLN palsy^[7]. One of the primary aims of this study was to examine

whether drains altered the occurrence of these two major complications in any way. As mentioned in the results section, the present study supports the fact that the incidence of major complications is not altered in any way by the usage of drains. This data is in accordance with previous clinical trials^[8-17]. On the other hand, among the rare complications following thyroidectomy, but without doubt the most serious, is postoperative hemorrhage with the potential for tracheal compression, airway involvement and death. Immediate or early hemorrhage occurs in a small percentage^[18]. Additionally, postoperative hematoma remains a more or less unknown and unpredictable event with a possibility of subsequent respiratory distress^[19]. The rate of postoperative bleeding with formation of a hematoma has been reported to be 0.1%-4.3%, with the rate for symptomatic hematomas being 0.1%-1.0%^[20,21]. The present study indicates a 5% rate of asymptomatic hematomas without any symptomatic ones. This marginally increased incidence is probably due to the increased volume and weight of the thyroids excised in this study (see inclusion criteria). What is noteworthy, however, is that there is no statistical difference between the two groups concerning hematomas (bruising). So, from this point of view, the presence or not of a drain has no influence on hematoma formation occurrence.

The time frame for observation after total thyroidectomy is changing^[18]. Schwartz *et al*^[22] described a critical period of time in which bleeding occurs most commonly (in all cases, the potential for airway compromise was identified within 4 h of surgery). Accordingly, Burkey *et al*^[23] found that 43% of hematoma presentations were within 6 h, 38% between 7 and 12 h, and 8% after 24 h or more. Many studies agree that late hematomas are uncommon and the large majority of hematomas occur in the earlier period^[18,23-25]. It has been shown that late hematomas (> 24 h) occurred only in patients with resection of substernal goiters and who had cardiac comorbidity that required anti-coagulation/anti-platelet therapy^[7]. Postoperative drains allow withdrawal of postoperative hemorrhage. However, they cannot be considered a substitute for meticulous surgical dissection and hemostasis and may predispose to postoperative infection. Under these perspectives, it seems very logical that the use of drains does not alter the duration of hospitalization, as proved in this study. Most surgeons remove the drains after 24 h and send the patient home.

From all of the above, we can actually see no disadvantage or advantage in the use of drains in thyroid surgery. Why then do we observe surgeons with similar experiences following different strategies? Two parameters have to be taken into consideration when thinking around this subject: patients' discomfort and surgeons' serenity. We found no study to date that correlates patients' discomfort and the presence of drains in any way. We observed that drains were positively correlated with discomfort. On the other hand, surgeons' serenity has to be taken into account. We believe that the above two

factors pull the two ends of the rope in the tug of war of the decision between drains or no drains. Since surgeons' serenity seems to be largely influenced by the number of thyroidectomies performed, this is probably the reason why no drains are used in high volume specialized centers. However, as thyroidectomies are largely performed by general surgeons or otorinolaryngologists in general departments, this is the reason why drains are placed in a large proportion of thyroidectomised patients.

The results of this study confirm that the usage of drains when performing total thyroidectomy for a large goiter gives no advantage or disadvantage to the surgeon. Postoperative course and complication rates are comparable in both groups. The only "major" disadvantage that drains have is that they induce discomfort in the patient. On the other hand, they probably play an important role in the surgeons' serenity, especially when the operation is performed in nonspecialized departments.

COMMENTS

Background

New energy sources and methods of hemostasis have been used in thyroid surgery with great effectiveness over the last years. However, the classic clamp-and-tie thyroidectomy has not been abandoned and is frequently employed in general surgery departments, either due to the unavailability of new technologies or a lack of training in other techniques.

Research frontiers

The present study supports the fact that the incidence of major complications is not altered in any way by the usage of drains.

Innovations and breakthroughs

The results of this study confirm that the usage of drains when performing total thyroidectomy for a large goiter gives no advantage or disadvantage to the surgeon.

Applications

Drains in clamp-and-tie total thyroidectomy for large goiters give no advantage or disadvantage to the surgeon.

Peer review

The authors have studied the potential benefits of drainage after total thyroidectomy in cases where no advanced hemostatic instruments were used.

REFERENCES

- 1 **Barczyński M**, Konturek A, Cichoń S. Minimally invasive video-assisted thyroidectomy (MIVAT) with and without use of harmonic scalpel--a randomized study. *Langenbecks Arch Surg* 2008; **393**: 647-654 [PMID: 18600342 DOI: 10.1007/s00423-008-0373-8]
- 2 **Papavramidis TS**, Sapalidis K, Michalopoulos N, Triantafillopoulou K, Gkoutzamanis G, Kesisoglou I, Papavramidis ST. UltraCision harmonic scalpel versus clamp-and-tie total thyroidectomy: a clinical trial. *Head Neck* 2010; **32**: 723-727 [PMID: 19787787]
- 3 **Andrieu G**, Amrouni H, Robin E, Carnaille B, Wattier JM, Pattou F, Vallet B, Lebuffe G. Analgesic efficacy of bilateral superficial cervical plexus block administered before thyroid surgery under general anaesthesia. *Br J Anaesth* 2007; **99**: 561-566 [PMID: 17681971 DOI: 10.1093/bja/aem230]
- 4 **Papavramidis TS**, Michalopoulos N, Pliakos J, Triantafillopoulou K, Sapalidis K, Deligiannidis N, Kesisoglou I, Ntokmetzioglou I, Papavramidis ST. Minimally invasive video-assisted total thyroidectomy: an easy to learn technique for skillful surgeons. *Head Neck* 2010; **32**: 1370-1376 [PMID: 20091694 DOI: 10.1002/hed.21336]

- 5 **Koulouris C**, Papavramidis TS, Pliakos I, Michalopoulos N, Polyzonis M, Sapalidis K, Kesisoglou I, Gkoutzamanis G, Papavramidis ST. Intraoperative stimulation neuromonitoring versus intraoperative continuous electromyographic neuromonitoring in total thyroidectomy: identifying laryngeal complications. *Am J Surg* 2012; **204**: 49-53 [PMID: 22169175]
- 6 **Kesisoglou I**, Papavramidis TS, Michalopoulos N, Ioannidis K, Trikoupi A, Sapalidis K, Papavramidis ST. Superficial selective cervical plexus block following total thyroidectomy: a randomized trial. *Head Neck* 2010; **32**: 984-988 [PMID: 19953610 DOI: 10.1002/hed.21286]
- 7 **Spanknebel K**, Chabot JA, DiGiorgi M, Cheung K, Curty J, Allendorf J, LoGerfo P. Thyroidectomy using monitored local or conventional general anesthesia: an analysis of outpatient surgery, outcome and cost in 1,194 consecutive cases. *World J Surg* 2006; **30**: 813-824 [PMID: 16547617 DOI: 10.1007/s00268-005-0384-3]
- 8 **Debry C**, Renou G, Fingerhut A. Drainage after thyroid surgery: a prospective randomized study. *J Laryngol Otol* 1999; **113**: 49-51 [PMID: 10341919 DOI: 10.1017/S0022215100143129]
- 9 **Peix JL**, Teboul F, Feldman H, Massard JL. Drainage after thyroidectomy: a randomized clinical trial. *Int Surg* 1992; **77**: 122-124 [PMID: 1644539]
- 10 **Ayyash K**, Khammash M, Tibblin S. Drain vs. no drain in primary thyroid and parathyroid surgery. *Eur J Surg* 1991; **157**: 113-114 [PMID: 1676302]
- 11 **Wihlborg O**, Bergljung L, Mårtensson H. To drain or not to drain in thyroid surgery. A controlled clinical study. *Arch Surg* 1988; **123**: 40-41 [PMID: 3276296 DOI: 10.1001/archsurg.1988.01400250042007]
- 12 **Kristoffersson A**, Sandzén B, Järhult J. Drainage in uncomplicated thyroid and parathyroid surgery. *Br J Surg* 1986; **73**: 121-122 [PMID: 3947901 DOI: 10.1002/bjs.1800730215]
- 13 **Schoretsanitis G**, Melissas J, Sanidas E, Christodoulakis M, Vlachonikolis JG, Tsiftsis DD. Does draining the neck affect morbidity following thyroid surgery? *Am Surg* 1998; **64**: 778-780 [PMID: 9697913]
- 14 **Shaha AR**, Jaffe BM. Selective use of drains in thyroid surgery. *J Surg Oncol* 1993; **52**: 241-243 [PMID: 8468987 DOI: 10.1002/jso.2930520409]
- 15 **Ariyanayagam DC**, Naraynsingh V, Busby D, Sieunarine K, Raju G, Jankey N. Thyroid surgery without drainage: 15 years of clinical experience. *J R Coll Surg Edinb* 1993; **38**: 69-70 [PMID: 8478835]
- 16 **Schwarz W**, Willy C, Ndjee C. Gravity or suction drainage in thyroid surgery? Control of efficacy with ultrasound determination of residual hematoma. *Langenbecks Arch Chir* 1996; **381**: 337-342 [PMID: 9082107]
- 17 **Khanna J**, Mohil RS, Chintamani D, Mittal MK, Sahoo M, Mehrotra M. Is the routine drainage after surgery for thyroid necessary? A prospective randomized clinical study [ISRCTN63623153]. *BMC Surg* 2005; **5**: 11 [PMID: 15946379 DOI: 10.1186/1471-2482-5-11]
- 18 **Hopkins B**, Steward D. Outpatient thyroid surgery and the advances making it possible. *Curr Opin Otolaryngol Head Neck Surg* 2009; **17**: 95-99 [PMID: 19373959 DOI: 10.1097/MOO.0b013e328325a512]
- 19 **Mirnezami R**, Sahai A, Symes A, Jeddy T. Day-case and short-stay surgery: the future for thyroidectomy? *Int J Clin Pract* 2007; **61**: 1216-1222 [PMID: 17577300 DOI: 10.1111/j.1742-1241.2006.01234.x]
- 20 **Colak T**, Akca T, Turkmenoglu O, Canbaz H, Ustunsoy B, Kanik A, Aydin S. Drainage after total thyroidectomy or lobectomy for benign thyroidal disorders. *J Zhejiang Univ Sci B* 2008; **9**: 319-323 [PMID: 18381807 DOI: 10.1631/jzus.B0720257]
- 21 **Harding J**, Sebag F, Sierra M, Palazzo FF, Henry JF. Thyroid surgery: postoperative hematoma--prevention and treatment. *Langenbecks Arch Surg* 2006; **391**: 169-173 [PMID: 16555087 DOI: 10.1007/s00423-006-0028-6]
- 22 **Schwartz AE**, Clark OH, Ituarte P, Lo Gerfo P. Therapeutic controversy: Thyroid surgery--the choice. *J Clin Endocrinol Metab* 1998; **83**: 1097-1105 [PMID: 9543125]
- 23 **Burkey SH**, van Heerden JA, Thompson GB, Grant CS, Schleck CD, Farley DR. Reexploration for symptomatic hematomas after cervical exploration. *Surgery* 2001; **130**: 914-920 [PMID: 11742317 DOI: 10.1067/msy.2001.118384]
- 24 **Materazzi G**, Dionigi G, Berti P, Rago R, Frustaci G, Docimo G, Puccini M, Miccoli P. One-day thyroid surgery: retrospective analysis of safety and patient satisfaction on a consecutive series of 1,571 cases over a three-year period. *Eur Surg Res* 2007; **39**: 182-188 [PMID: 17363846 DOI: 10.1159/000100904]
- 25 **Marohn MR**, LaCivita KA. Evaluation of total/near-total thyroidectomy in a short-stay hospitalization: safe and cost-effective. *Surgery* 1995; **118**: 943-947; discussion 947-948 [PMID: 7491538 DOI: 10.1016/S0039-6060(05)80098-4]

P- Reviewers: Coskun A, Ha PK, Vaiman M **S- Editor:** Zhai HH
L- Editor: Roemmele A **E- Editor:** Wang CH



GENERAL INFORMATION

World Journal of Otorhinolaryngology (*World J Otorhinolaryngol*, *WJO*, online ISSN 2218-6247, DOI: 10.5319) is a peer-reviewed open access (OA) academic journal that aims to guide clinical practice and improve diagnostic and therapeutic skills of clinicians.

Aim and scope

WJO covers topics concerning endoscopy, rhinology, pharyngology, laryngology, tracheo-esophagology, otology, tracheology, cancer, nasal symptomatology, congenital nasal diseases, inflammatory diseases of the external nose, rhinitis, allergic rhinitis, nasal polyps, nasal septal diseases, nasal bleeding, nasal or sinus foreign bodies, sinusitis, rhinogenic complications, diagnostic imaging, evidence-based medicine, epidemiology and nursing. The current columns of *WJO* include editorial, frontier, diagnostic advances, therapeutics advances, field of vision, mini-reviews, review, topic highlight, medical ethics, original articles, case report, clinical case conference (Clinicopathological conference), and autobiography. Priority publication will be given to articles concerning diagnosis and treatment of otorhinolaryngologic diseases. The following aspects are covered: Clinical diagnosis, laboratory diagnosis, differential diagnosis, imaging tests, pathological diagnosis, molecular biological diagnosis, immunological diagnosis, genetic diagnosis, functional diagnostics, and physical diagnosis; and comprehensive therapy, drug therapy, surgical therapy, interventional treatment, minimally invasive therapy, and robot-assisted therapy.

We encourage authors to submit their manuscripts to *WJO*. We will give priority to manuscripts that are supported by major national and international foundations and those that are of great basic and clinical significance.

WJO is edited and published by Baishideng Publishing Group (BPG). BPG has a strong professional editorial team composed of science editors, language editors and electronic editors. BPG currently publishes 43 OA clinical medical journals, including 42 in English, has a total of 15471 editorial board members or peer reviewers, and is a world first-class publisher.

Columns

The columns in the issues of *WJO* will include: (1) Editorial: The editorial board members are invited to make comments on an important topic in their field in terms of its current research status and future directions to lead the development of this discipline; (2) Frontier: The editorial board members are invited to select a highly cited cutting-edge original paper of his/her own to summarize major findings, the problems that have been resolved and remain to be resolved, and future research directions to help readers understand his/her important academic point of view and future research directions in the field; (3) Diagnostic Advances: The editorial board members are invited to write high-quality diagnostic advances in their field to improve the diagnostic skills of readers. The topic covers general clinical diagnosis, differential diagnosis, pathological diagnosis, laboratory diagnosis, imaging diagnosis, endoscopic diagnosis, biotechnological diagnosis, functional diagnosis, and physical diagnosis; (4) Therapeutics Advances: The editorial board members are invited to write high-quality therapeutic advances in their field to help improve the therapeutic skills of readers. The topic covers medication therapy, psychotherapy, physical therapy, replacement therapy, interventional therapy, minimally invasive therapy, endoscopic therapy, transplantation therapy, and surgical therapy; (5) Field of Vision: The editorial board members are invited to write

commentaries on classic articles, hot topic articles, or latest articles to keep readers at the forefront of research and increase their levels of clinical research. Classic articles refer to papers that are included in Web of Knowledge and have received a large number of citations (ranking in the top 1%) after being published for more than years, reflecting the quality and impact of papers. Hot topic articles refer to papers that are included in Web of Knowledge and have received a large number of citations after being published for no more than 2 years, reflecting cutting-edge trends in scientific research. Latest articles refer to the latest published high-quality papers that are included in PubMed, reflecting the latest research trends. These commentary articles should focus on the status quo of research, the most important research topics, the problems that have now been resolved and remain to be resolved, and future research directions. Basic information about the article to be commented (including authors, article title, journal name, year, volume, and inclusive page numbers; (6) Minireviews: The editorial board members are invited to write short reviews on recent advances and trends in research of molecular biology, genomics, and related cutting-edge technologies to provide readers with the latest knowledge and help improve their diagnostic and therapeutic skills; (7) Review: To make a systematic review to focus on the status quo of research, the most important research topics, the problems that have now been resolved and remain to be resolved, and future research directions; (8) Topic Highlight: The editorial board members are invited to write a series of articles (7-10 articles) to comment and discuss a hot topic to help improve the diagnostic and therapeutic skills of readers; (9) Medical Ethics: The editorial board members are invited to write articles about medical ethics to increase readers' knowledge of medical ethics. The topic covers international ethics guidelines, animal studies, clinical trials, organ transplantation, etc.; (10) Clinical Case Conference or Clinicopathological Conference: The editorial board members are invited to contribute high-quality clinical case conference; (11) Original Articles: To report innovative and original findings in otorhinolaryngology; (12) Brief Articles: To briefly report the novel and innovative findings in otorhinolaryngology; (13) Meta-Analysis: Covers the systematic review, mixedtreatment comparison, meta-regression, and overview of reviews, in order to summarize a given quantitative effect, e.g., the clinical effectiveness and safety of clinical treatments by combining data from two or more randomized controlled trials, thereby providing more precise and externally valid estimates than those which would stem from each individual dataset if analyzed separately from the others; (14) Case Report: To report a rare or typical case; (15) Letters to the Editor: To discuss and make reply to the contributions published in *WJO*, or to introduce and comment on a controversial issue of general interest; (16) Book Reviews: To introduce and comment on quality monographs of otorhinolaryngology; and (17) Autobiography: The editorial board members are invited to write their autobiography to provide readers with stories of success or failure in their scientific research career. The topic covers their basic personal information and information about when they started doing research work, where and how they did research work, what they have achieved, and their lessons from success or failure.

Name of journal

World Journal of Otorhinolaryngology

ISSN

ISSN 2218-6247 (online)

Instructions to authors

Launch date

December 28, 2011

Frequency

Quarterly

Editors-in-Chief

Tsutomu Nakashima, MD, PhD, Professor, Department of Otorhinolaryngology, Nagoya University Graduate School of Medicine, 65, Tsurumai-cho, Showa-ku, Nagoya 466-8550, Japan

Steven J Wang, MD, FACS, Associate Professor in Residence, Department of Otolaryngology-Head and Neck Surgery, University of California, San Francisco, 2233 Post St, 3rd Floor-Box 1225, San Francisco, CA 94115, United States

Editorial office

Jin-Lei Wang, Director

Xiu-Xia Song, Vice Director

World Journal of Otorhinolaryngology

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: wjotorhinolaryngol@wjgnet.com

<http://www.wjgnet.com>

Publisher

Baishideng Publishing Group Co., Limited

Flat C, 23/F, Lucky Plaza, 315-321 Lockhart Road,

Wan Chai, Hong Kong, China

Telephone: +852-58042046

Fax: +852-31158812

E-mail: bpgoffice@wjgnet.com

<http://www.wjgnet.com>

Production center

Beijing Baishideng BioMed Scientific Co., Limited

Room 903, Building D, Ocean International Center,

No. 62 Dongsihuan Zhonglu, Chaoyang District,

Beijing 100025, China

Telephone: +86-10-85381892

Fax: +86-10-85381893

Representative office

USA Office

8226 Regency Drive,

Pleasanton, CA 94588-3144, United States

Instructions to authors

Full instructions are available online at http://www.wjgnet.com/2218-6247/g_info_20100722180338.htm.

Indexed and Abstracted in

Digital Object Identifier.

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, Redit, 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, *WJO* 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/2218-6247/g_info_20100722180338.htm) before attempting to submit online. For assistance, authors encountering problems with the Online Submission System may send an email describing the problem to wjtorhinolaryngol@wjgnet.com, or by telephone: +86-10-85381892. If you submit your manuscript online, do not make a postal contribution. 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 sup-

portive 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 on acceptance is made only when at least two experts recommend publication of an article. All peer-reviewers are acknowledged on Express Submission and Peer-review System website.

Abstract

There are unstructured abstracts (no less than 200 words) and structured abstracts. The specific requirements for structured abstracts are as follows:

An informative, structured abstract should accompany each manuscript. Abstracts of original contributions should be structured into the following sections: AIM (no more than 20 words; Only the purpose of the study should be included. Please write the Aim in the form of "To investigate/study/..."), METHODS (no less than 140 words for Original Articles; and no less than 80 words for Brief Articles), RESULTS (no less than 150 words for Original Articles and no less than 120 words for Brief Articles; 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 , $P < 0.001$), and 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.

Core tip

Please write a summary of less than 100 words to outline the most innovative and important arguments and core contents in your paper to attract readers.

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.

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. 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 E-versions.

Instructions to authors

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, 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,

Kubler 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 Xiaobua 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. Hypertension, insulin, and proinsulin in participants with impaired glucose tolerance. *Hypertension* 2002; **40**: 679-686 [PMID: 12411462 PMID: 2516377 DOI: 10.1161/01.HYP.00000035706.28494.09]

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, Schorfheide 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 μ g/L; CO₂ volume fraction, 50 mL/L CO₂, not 5% CO₂; 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/2218-6247/g_info_20100724224620.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

All types of articles' writing style and requirement will be found in the link: <http://www.wjgnet.com/esps/NavigationInfo.aspx?id=15>

RESUBMISSION OF THE REVISED MANUSCRIPTS

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 A 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.

Copyright assignment form

Please download a Copyright assignment form from http://www.wjgnet.com/2218-6247/g_info_20100724224507.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/2218-6247/g_info_20100724224317.htm.

Proof of financial support

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

Statement about anonymous publication of the peer reviewers' comments

In order to increase the quality of peer review, push authors to carefully revise their manuscripts based on the peer reviewers' comments, and promote academic interactions among peer reviewers, authors and readers, we decide to anonymously publish the reviewers' comments and author's responses at the same time the manuscript is published online.

PUBLICATION FEE

WJO 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 and format, 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. All invited articles are published free of charge.



百世登

Baishideng®

Published by **Baishideng Publishing Group Co., Limited**

Flat C, 23/F., Lucky Plaza,

315-321 Lockhart Road, Wan Chai, Hong Kong, China

Fax: +852-65557188

Telephone: +852-31779906

E-mail: bpgoffice@wjgnet.com

<http://www.wjgnet.com>

