



# Turkish Journal of Endocrinology and Metabolism

JOURNAL OF THE SOCIETY OF ENDOCRINOLOGY AND METABOLISM OF TURKEY December 2017

Volume: 21 Issue: 4

## Original Articles

**Effect of Exenatide on Aortic Stiffness and Blood Pressure Parameters**

Eren Gürkan et al.; Hatay, Turkey

**Health Problems Accompanying Hypothyroidism in Patients in Ecuador**

Óscar Luís Vaca Cevallos et al.; Guayaquil, Ecuador

**Evaluation of the Relationship Between Thyroid Functions and Dry Eye Symptoms in Patients with Hashimoto Thyroiditis**

Gülşah Y. Yalın et al.; İstanbul, Turkey

**The Role of FTO Gene Alleles on the Diet and Metabolic Risk Factors in the Subjects with Diabetes**

Asher Fawwad et al.; Karachi, Pakistan

**Coexistence of Autoimmune and Allergic Diseases with Autoimmune Thyroid Diseases**

İffet Dağdelen Duran et al.; Ankara, Turkey

## Review Article

**The Role of Gluten-free Diet and Intestinal Microbiota on Glycemic Control and Diabetes Development**

Evrin Çakır et al.; İstanbul, Turkey

## Case Reports

**Mauriac Syndrome: Case Report and Review of the Literature**

Ömercan Topaloğlu et al.; Malatya, Turkey

**Acromegaly and Pregnancy: Five New Cases**

Elif Önder et al.; Düzce, Turkey

## Invited Review

**Summary of Bariatric Surgery Guideline of the Society of Endocrinology and Metabolism of Turkey**

Tevfik Sabuncu et al.; Şanlıurfa, Turkey



## Owner on behalf of the Society of Endocrinology and Metabolism of Turkey

Sevim Güllü, Ankara, Turkey

## Editor-In-Chief

Nilgün Başkal, Ankara, Turkey

## Deputy Editor

Murat Faik Erdoğan, Ankara, Turkey

## Associate Editors

Hasan Ali Altunbaş, Antalya, Turkey  
Dilek Gogas Yavuz, İstanbul, Turkey  
Serkan Yener, İzmir, Turkey

## Statistical Consultant

Atilla Halil Elhan, Ankara, Turkey  
Levent Dönmez, Ankara, Turkey  
Derya Öztuna, Ankara, Turkey  
Can Ateş, Van, Turkey

## Language Editor

Jennifer Gabriel, California, USA

## Honorary Board

Sema Akalin, İstanbul, Turkey  
Metin Arslan, Ankara, Turkey  
Gürbüz Erdoğan, Ankara, Turkey  
Olca Gedik, Ankara, Turkey  
Sadi Güngoğdu, İstanbul, Turkey  
Hüsrev Hatemi, İstanbul, Turkey  
Şazi İmamoğlu, Bursa, Turkey  
Taylan Kabalak, İzmir, Turkey  
Senay Molvalılar, İstanbul, Turkey  
Candeğer Yılmaz, İzmir, Turkey

## Editorial Board

Ersin Akarsu, Gaziantep, Turkey  
Müjde Aktürk, Ankara, Turkey  
İnan Anaforoğlu, İstanbul, Turkey  
Ayşegül Atmaca, Samsun, Turkey  
Mustafa Kemal Balcı, Antalya, Turkey  
Neslihan Başçıl Tütüncü, Ankara, Turkey  
David Baylink, California, Usa  
Fahri Bayram, Kayseri, Turkey  
Mehtap Çakır, İzmir, Turkey  
Abdurrahman Çömlekci, İzmir, Turkey  
Selçuk Dağdelen, Ankara, Turkey  
Leslie J. Degroot, Kingston, Usa  
Tomris Erbaş, Ankara, Turkey  
Mehmet Erdoğan, İzmir, Turkey  
Eda Ertörer, Adana, Turkey  
John W. Funder, Victoria, Australia  
Hossein Gharib, Minnesota, Usa  
Nilgün Güvener, İstanbul, Turkey  
Serdar Güler, Ankara, Turkey  
Alptekin Gürsoy, Ankara, Turkey  
Zeliha Hekimsoy, Manisa, Turkey  
Larry Jameson, Philadelphia, Usa

Pınar Kadioğlu, İstanbul, Turkey  
Pierre J. Lefebvre, Liege, Belgium  
Mesut Özkaya, Gaziantep, Turkey  
İlhan Satman, İstanbul, Turkey  
Fusun Saygılı, İzmir, Turkey  
Alper Sönmez, Ankara, Turkey  
İbrahim Şahin, Malatya, Turkey  
Mustafa Şahin, Ankara, Turkey  
Kubilay Ukinç, Çanakkale, Turkey  
Betül Uğur Altun, İstanbul, Turkey  
Kürşad Ünlühızarcı, Kayseri, Turkey  
Ayşe Kubat Üzüm, İstanbul, Turkey  
Anthony Weetman, Sheffield, UK  
Bülent Okan Yıldız, Ankara, Turkey

## Advisory Board

Faruk Alagöl, İstanbul, Turkey  
Yalçın Aral, Ankara, Turkey  
Göksun Ayvaz, Ankara, Turkey  
Ömer Azal, Ankara, Turkey  
Erol Bolu, İstanbul, Turkey  
Berrin Çetinarslan, Kocaeli, Turkey  
Ahmet Çorakçı, Ankara, Turkey  
Hatice Sebila Dökmetaş, İstanbul, Turkey  
Belgin Efe, Eskişehir, Turkey  
Sevinç Eraslan, İzmir, Turkey  
Sait Gönen, İstanbul, Turkey  
Ahmet Kaya, Konya, Turkey  
Fahrettin Keleştimur, Kayseri, Turkey  
Mustafa Kutlu, Ankara, Turkey  
Tümay Sözen, Ankara, Turkey  
Refik Tanakol, İstanbul, Turkey  
Ali Rıza Uysal, Ankara, Turkey  
Sema Yarman, İstanbul, Turkey



## AIMS AND SCOPE

The Turkish Journal of Endocrinology and Metabolism is the peer-reviewed periodical on clinical and experimental endocrinology and metabolism diseases and related fields. It is the official journal of the Society of Endocrinology and Metabolism of Turkey and is published quarterly (March, June, September and December) as hardcopy and an electronic journal at [www.turkjem.org](http://www.turkjem.org). The manuscripts are published in English language.

The journal publishes original research papers, reviews and case reports which primarily focus on clinical endocrinology. The journal's aim is to be the essential reading for both endocrinologists and clinical practitioners.

**The Turkish Journal of Endocrinology and Metabolism is indexed in Emerging Sources of Citation Index (ESCI), British Library, CINAHL, Directory of Open Access Journals (DOAJ), EBSCO, EMBASE, SCOPUS, Tübitak / Ulakbim TR Index, TürkMedline, Türkiye Citation Index.**

### Open Access Policy

The Turkish Journal of Endocrinology and Metabolism is an open access journal. This journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

Open Access Policy is based on rules of Budapest Open Access Initiative (BOAI) <http://www.budapestopenaccessinitiative.org/>.

Instructions for online manuscript submission, current issues and archives of the journal can be found at [www.turkjem.org](http://www.turkjem.org). Please do not send manuscripts to the editorial office. For other related issues you may contact the editorial office:

### Subscription information

The Turkish Journal of Endocrinology and Metabolism is distributed free of charge to all endocrinology academicians and instructors serving in our country. Access to full-text articles of all issues of the journal is free at the journal's website [www.turkjem.org](http://www.turkjem.org)

### Instructions for authors

Instructions for authors are published in the journal pages and can be accessed at the web site of the journal [www.turkjem.org](http://www.turkjem.org)

### Material Disclaimer

Statements or opinions expressed in the manuscripts published in the Turkish Journal of Endocrinology and Metabolism reflect the views of the author(s) and are not the opinions of the editors, the editorial board and the publisher. The editors, editorial board and the publisher disclaim any responsibility or liability for such materials.

**The journal is printed on acid-free paper.**

All rights are reserved. Rights to the use and reproduction, including in the electronic media, of all communications, papers, photographs and illustrations appearing in this journal belong to the Turkish Journal of Endocrinology and Metabolism. Reproduction without prior written permission of part or all of any material is forbidden. The journal complies with the Professional Principles of the Press.

The paper used the print this journal conforms to ISO 9706: 1994 standard (Requirements for Permanence). The National Library of medicine suggests that biomedical publications be printed on acid free paper (alkaline paper).

Reviewing the articles' conformity to the publishing standards of the Journal, typesetting, reviewing and editing and editing the manuscripts and abstracts in English and publishing process are realized by Türkiye Klinikleri.



**THE OWNER ON BEHALF OF TURKISH JOURNAL OF ENDOCRINOLOGY AND METABOLISM OF TURKEY**

Sevim Güllü, MD

**MANAGING CLERICAL DIRECTOR**

Nilgün Başkal, MD

**ADDRESS FOR MANAGEMENT**

Turkish Journal of Endocrinology and Metabolism of Turkey  
Meşrutiyet Caddesi No: 29/12 Kızılay, Ankara, TURKEY  
Phone: +90 312 425 20 72  
Fax: +90 312 425 20 98  
web: www.turkjem.org  
E-mail: president@temd.org.tr

**Publication Type and Periods**

Turkish Journal of Endocrinology and Metabolism of Turkey is published 4 (March, June, September and December) times a year.  
Local period publication.

**For requests concerning subscription information and advertising, please contact the Publisher:**



Publishing House: Türkiye Klinikleri  
Address: Nasuh Akar Mah. Türkocağı Cad. No:30 Balgat - Ankara Turkey  
Telephone: +90 312 286 56 56  
Fax: +90 312 220 04 70  
E-mail: info@turkiyeklinikleri.com  
Web page: www.turkiyeklinikleri.com

The services of "Article Tracking (Automation)", "Layout", "Web Site Design-Operation" and "e-Mailing" are provided by Türkiye Klinikleri.

Publication Date: 29.12.2017

ISSN: 1301-2193

E-ISSN: 1308-9846



### INSTRUCTIONS FOR AUTHORS

Turkish Journal of Endocrinology and Metabolism issues papers on all aspects of endocrinology. The journal is the scientific publishing organ of the Society of Endocrinology and Metabolism of Turkey and has been published quarterly (March, June, September and December) since 1997. In addition to original articles, case reports, review articles, letters to the editor, educational articles, sections of question and answers, abstracts from literature and announcements of congresses/meetings are also published. Turkish Language Institution dictionary and orthography guide should be taken as basic for literary. The idioms used should be checked. The scientific and ethical liability of the manuscripts belongs to the authors and the copyright of the manuscripts belongs to the Turkish Journal of Endocrinology and Metabolism. The authors should submit the signed copyright transfer form together with their manuscripts. Authors are responsible for the contents of the manuscript and accuracy of the references. The authors should guarantee that their manuscripts has not been published and/or is not under consideration for publication in any other periodical. This requirement does not apply to papers presented in scientific meetings and whose summaries, not exceeding 250 words, are published. In this case, however, the name, date and place of the meeting in which the paper was presented should be stated. The signed statement of scientific contributions and responsibilities of all authors is required.

The Turkish Journal of Endocrinology and Metabolism does not charge any article submission or processing charges.

#### Peer-review

Editorial policies of the journal are conducted according to the rules advised by Council of Science Editors and reflected in the Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication (<http://www.icmje.org/>).

Submitted manuscripts are subjected for double-blind peer-review. The scientific board guiding the selection of the papers to be published in the Journal consists of elected experts of the Journal and if necessary, selected from national and international experts in the relevant field of research. All manuscripts are reviewed by the editor, section associate editors and at least three internal and external expert referees. All research articles undergo review by statistical editor as well.

Submitted manuscripts are also subjected for the evaluation of plagiarism, duplicate publication by automatic software. Authors are obliged to acknowledge if they published study results in full or in part in form of abstracts.

The authors of the accepted manuscripts should be in consent that the editor and associate editors could make corrections without changing the main text of the paper. Manuscript format should be in accordance with Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication (<http://www.icmje.org/>).

#### General Guidelines

Manuscripts can only be submitted electronically through the web site (<http://www.turkjem.org>) after creating an account. This system allows online submission and peer-review. The manuscripts are archived according to ICMJE-[www.icmje.org](http://www.icmje.org), Index Medicus (Medline/PubMed) and Ulakbim-Turkish Medicine Index Rules. Rejected manuscripts, except artwork are not returned.

For the experimental, clinical and drug human studies, approval by ethical committee and statement on the adherence of the study protocol to the international agreements (Helsinki Declaration revised 2013 ([www.wma.net/en/30publications/10policies/b3/](http://www.wma.net/en/30publications/10policies/b3/))) are required. In experimental animal studies, the authors should indicate that the procedures followed were in accordance with animal rights (Guide for the care and use of laboratory animals, [www.nap.edu.catalog/5140.html](http://www.nap.edu/catalog/5140.html)) and they should obtain animal ethic committee approval.

The Ethic Committee approval document should be submitted to the Turkish Journal of Endocrinology and Metabolism together with the manuscript.

The approval of the ethic committee, statement on the adherence to international guidelines mentioned above and that the patients' informed consent is obtained should be indicated in the 'Material and Method' section and is required for case reports whenever data/media used could reveal identity of the patient. The declaration of the conflict of interest between authors, institutions, acknowledgement of any financial or material support, aid is mandatory for authors submitting manuscript and the statement should appear at the end of manuscript. Reviewers are required to report if any potential conflict of interest exists between reviewer and authors, institutions.

#### Original Articles

Clinical research should comprise clinical observation, new techniques or laboratory studies. Provided that these manuscripts are written with lower-case letters, they should include the title in Turkish/English, the background and the key words in Turkish/English, introduction, materials and methods, results (findings), discussion, references, tables, charts, pictures and they should be written in accordance with Journal Agent rules. They should not exceed sixteen (A4) pages.

It is recommended to present research articles and meta-analysis/systematic reviews article according to the guidelines on specific design of the study: randomized studies (CONSORT), observational studies (STROBE), studies on diagnostic accuracy (STARD), meta-analysis and systematic review (PRISMA, MOOSE) and other study designs ([www.equator-network.org](http://www.equator-network.org)).

#### Author Information

The name and the surname of the authors should be written without abbreviation. The academic titles, the affiliations and the addresses of these affiliations should be clearly declared. Furthermore, the contact information of the corresponding author should be entered to the system. Since e-mail will be used primarily for the contact with the authors, the e-mail of the corresponding author should be indicated. In addition the phone and the fax numbers should be also indicated.

#### Title Page

This page should include the titles of the manuscript, key words and running titles. In Turkish manuscripts the title in English should also take place. Likely, Turkish title should be mentioned for articles in foreign language. If the content of the paper has been previously presented or its abstract has been published, an explanation should be made in this page about this issue. If there are any grants and other financial supports by any institutions or firms for the study, information must be provided by the authors.

#### Abstract

Turkish and English summaries of the manuscript should take place in a manner that it will not exceed 250 words. The keywords should be written at the end of the summary. The references should not be cited in the summary section. As far as possible, use of abbreviations is to be avoided. If any abbreviations are used, they must be taken into consideration independently of the abbreviations used in the text. The summary should be written with four running titles.

**Purpose:** The goal of the study should be clearly stated.

**Material and Method:** The study should be defined, the standard criteria; it should be also indicated whether the study is randomized or not, whether it is retrospective or prospective, the statistical method, if any, should be indicated.

**Results (Findings):** The detailed result of the study should be given and the statistical significance level should be indicated.

**Discussion:** It should reflect the results of the study, the favorable and unfavorable aspects should be declared.



## INSTRUCTIONS FOR AUTHORS

**Key words:** At least three and maximum eight key words. (in English and in Turkish) Do not use abbreviations in the key words. Turkish key words will be provided by the editorial office for the authors who are not Turkish speakers. If you are not a native Turkish speaker, please re-enter your English keywords to the area provided for the Turkish keywords. English key words should be provided from Medical Subject Headings (<http://www.nlm.nih.gov/mesh/>) while Turkish key words should be provided from <http://www.bilimterimleri.com>.

Original researches should have the following sections;

### Introduction

Brief explanation about the topic should be done, the objective of the study should be indicated and these should be supported by the literature information.

### Materials and Methods

The study design should be described, it should be indicated whether it is interventional randomized or observational, whether it is retrospective or prospective, the number of trials, the characteristics, studied variables and specific methods, the used statistical methods should be indicated. If any, it should be indicated that the results should be scrutinized.

### Results (Findings)

The results should be given, the tables and the pictures should be given in numerical order and, the results should be indicated as % and/or p-values.

### Discussion

The obtained values should be discussed with its favorable and unfavorable aspects and, they should be compared with literature.

**Study Limitations:** Study Limitations and strengths, and directions for further research or implication must be discussed.

**Conclusion:** The conclusion of the study should be highlighted.

Authors contributions, Declaration of conflict of interest and Acknowledgements should appear at the end of the main text of manuscript.

### References

Accuracy of reference data is the author's responsibility. References should be numbered according to the consecutive citation in the text. References should be indicated by parenthesis in the text. If there is Turkish Reference, attention should be paid to indicate this. Journal titles should be abbreviated according to the style used in the Index Medicus. All the references, books, papers and similar articles should be cited as references should be written according to the rules of the International Committee of Medical Journal Editors Uniform Requirements for Manuscripts Submitted to Biomedical Journals ([http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html)).

**Journal:** The surnames of the authors and the initial of authors' names, the title of the paper, the title of the journal (the original abbreviation stated in the journal), year, volume and the page numbers.

**Example:** Collin JR, Rathbun JE. Involitional entropion: a review with evaluation of a procedure. Arch Ophthalmol. 1978;96:1058-1064.

**Book with a Single Author:** The surname and the initial of the author, the title, chapter and section, the name of the editor, title of the book, place of publication, name of the printing house, year of print, page numbers.

**Example:** Herbert L. Conjunctivitis, keratitis and infections of periorbital structures. In: Armstrong D, Cohen J, eds. The Infectious Diseases (1st ed). Philadelphia; Mosby Harcourt; 1999;11;1-8.

**Book Chapter:** The surname and the initial of the author, chapter and section, name of the editor, title of the book, place of publication, name of the printing house, year of print, page numbers.

**Example:** O'Brien TP, Green WR. Periocular Infections. In: Feigin RD, Cherry JD, eds. Textbook of Pediatric Infectious Diseases (4th ed). Philadelphia; W.B. Saunders Company; 1998:1273-1278.

**Visual Materials (Tables, Graphics, Figures, and Pictures):** All tables, graphics or figures should be enumerated according to the sequence within the text and a brief descriptive caption should be written. The abbreviations used should be definitely explained in the figure's legend. Especially, the text of tables should be easily understandable and should not repeat the data of the main text. Illustrations that already published are acceptable if supplied by permission of authors for publication. The details of the pictures should be distinguishable and they should be recorded in JPEG format and in 500 pixels per inch at least.

### Case Reports

It should consist of the title, summary, key words, summary in English, keywords, introduction, case report, discussion and references, the case or the cases should be worth to be presented, it should contribute to literature, and all of them should not exceed 5 papers in (A4) sizes.

### Review

It should include new topics, the own experiences of the author, if possible, and the references also. It should consist of the title in Turkish, the summary, the keywords, the title in English, the summary in English and the keywords in English.

### Letters to the Editor

They should be essays in the "review" manner in various topics or the essays concerning the articles published in the Turkish Journal of Endocrinology and Metabolism with the contributive content or contents as questions that do not exceed 200 words.

### Scientific Letters

The manuscripts should be error-free in the summaries compiled from the articles in other journals, the author names (surname, name) should be written, the journal title should be written with its original abbreviation, its year should be indicated and, the name and he surname of the translator should be indicated under the manuscript.

### Open Access Policy

This journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

### Correspondence

All correspondences can be done to the following postal address or to the following e-mail address, where the journal editorial resides:

Address: Ankara University Faculty of Medicine, Department of Endocrinology and Metabolism, Ankara, Turkey

Phone: +90 312 508 21 00

Fax: +90 312 309 45 05

E-mail: nilgun.baskal@temd.org.tr

"This journal licenced under the terms of the Creative Commons 4.0 International Licence (CC BY 4.0)"



## CONTENTS

### Original Articles

- 97** Effect of Exenatide on Aortic Stiffness and Blood Pressure Parameters  
Eksenatidin Aortik Sertlik ve Kan Basıncı Parametreleri Üzerine Etkisi  
Eren GÜRKAN, İlhan TARKUN, Tayfun ŞAHİN
- 104** Health Problems Accompanying Hypothyroidism in Patients in Ecuador  
Ekuador'daki Hastalarda Hipotiroidi ile Birlikte Görülen Sağlık Sorunları  
Óscar Luís VACA CEVALLOS, Miguel Ángel GARCÍA BEREGUIAIN, Miguel Ángel BLASCO CARLOS
- 108** Evaluation of the Relationship Between Thyroid Functions and Dry Eye Symptoms in Patients with Hashimoto Thyroiditis  
Hashimoto Tiroiditi Tanılı Hastalarda Kuru Göz Semptomlarının Tiroid Fonksiyonları ile Olan İlişkinin Değerlendirilmesi  
Gülşah Y. YALIN, Fuat CENİK, Nihat SAYIN, Hüseyin ÇELİK, Abdülbaki KUMBASAR
- 113** The Role of FTO Gene Alleles on the Diet and Metabolic Risk Factors in the Subjects with Diabetes  
FTO Gen Alellerinin Diyabetli Kişilerde Diyet ve Metabolik Risk Faktörleri Üzerindeki Rolü  
Asher FAWWAD, İffikhar Ahmed SIDDIQUI, Fariha SHAHEEN, Rubina HAKEEM, Nazish WARIS,  
Syeda Nuzhat NAWAB, Syed Muhammad SHAHID, Anna PARKER, Abdul BASIT
- 120** Coexistence of Autoimmune and Allergic Diseases with Autoimmune Thyroid Diseases  
Otoimmün Tiroid Hastalıklarıyla Birlikte Seyreden Otoimmün ve Allerjik Hastalıklar  
İffet DAĞDELEN DURAN, Kemal AĞBAHT, İrfan SOYKAN, Sevim GÜLLÜ

### Review Article

- 127** The Role of Gluten-free Diet and Intestinal Microbiota on Glycemic Control and Diabetes Development  
Glutensiz Diyet, İntestinal Mikrobiotanın Glisemik Kontrol ve Diyabet Gelişimindeki Rolü  
Evrin ÇAKIR, Esra ATAÖĞLU, Mustafa YENİGÜN



## Case Reports

- 131** Mauriac Syndrome: Case Report and Review of the Literature  
Mauriac Sendromu: Olgu Sunumu ve Literatürün Gözden Geçirilmesi  
Ömercan TOPALOĞLU, Sibel DEMİRAL SEZER, Bilgin DEMİR, Derya AKARKEN
- 136** Acromegaly and Pregnancy: Five New Cases  
Akromegali ve Gebelik: Beş Yeni Vaka  
Elif ÖNDER, Yusuf AYDIN, Tuba SOYSAL, Mazhar TUNA, Adem GÜNGÖR

## Invited Review

- 140** Summary of Bariatric Surgery Guideline of the Society of Endocrinology and Metabolism of Turkey  
Türkiye Endokrinoloji ve Metabolizma Derneği Bariatrik Cerrahi Kılavuzu Özeti  
Tevfik SABUNCU, Sinem KIYICI, Mehmet Ali EREN, Seda SANCAK, Alper SÖNMEZ, Sibel GÜLDİKEN,  
Faruk KUTLUTÜRK, İbrahim ŞAHİN, Murat YILMAZ, Fahri BAYRAM