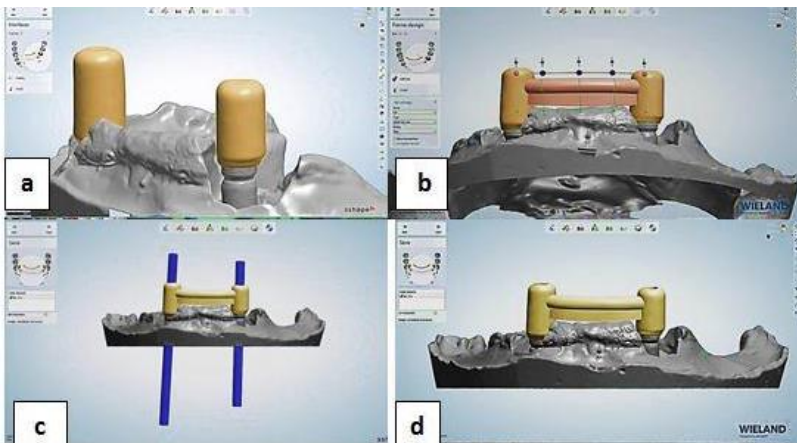




International Dental Research



Volume 9
Issue 3
December 2019



Publisher

ILIRYA LIMITED COMPANY

Contact

Address: Dicle University,
Technology Development
Zone, No:222-1/6
Diyarbakır, Turkey
E-mail: info@ilirya.com.tr

Editor in Chief

Özkan ADIGÜZEL

Dicle University, Turkey

Associate Editors

Michele CALLEA

Unit of Dentistry, Bambino Gesu Children's Hospital, Italy

İzzet YAVUZ

Dicle University, Turkey

Statistical Editor

Zeki AKKUŞ

Dicle University, Turkey

Language Editor

Ediz KALE

Mustafa Kemal University, Turkey

Editorial Office Staff

Ceren AKTUNA BELGİN

Seda FALAKALOĞLU

Suzan CANGÜL

Editorial Contact

Address: Dicle University, Faculty of Dentistry, IDR Journal Office
21280, Diyarbakır, Turkey
E-mail: info@dental-research.com

International Editorial Board

| | |
|---------------------------|---|
| Ian A MEYERS | <i>University of Queensland, Australia</i> |
| Filiz ACUN KAYA | <i>Dicle University, Turkey</i> |
| Sausan AL KAWAS | <i>University of Sharjah, UAE</i> |
| Güvenç BAŞARAN | <i>Dicle University, Turkey</i> |
| Adnan CATOVIC | <i>University of Zagreb, Croatia</i> |
| Sema ÇELENK | <i>Dicle University, Turkey</i> |
| Parla Meva DURMAZPINAR | <i>Izmir Demokrasi University, Turkey</i> |
| Kürşat ER | <i>Akdeniz University, Turkey</i> |
| Ali ERDEMİR | <i>Kırıkkale University, Turkey</i> |
| Gianluca GAMBARINI | <i>University of Rome, Italy</i> |
| Myroslav GONCHARUK-KHOMYN | <i>Uzhhorod National University, Ukraine</i> |
| Nicola Maria GRANDE | <i>Catholic Univ. of Sacred Heart Rome, Italy</i> |
| Mustafa GÜNDOĞAR | <i>Istanbul Medipol University, Turkey</i> |
| Bernard JANKOVIC | <i>University of Zagreb, Croatia</i> |
| Eduardo JOSE SOUZA-JUNIOR | <i>University Center of Varzea Grande, Brazil</i> |
| Sadullah KAYA | <i>Dicle University, Turkey</i> |
| Ali KELEŞ | <i>Ondokuz Mayıs University, Turkey</i> |
| Diah Ayu MAHARANI | <i>Universitas Indonesia, Indonesia</i> |
| Sérgio MOURA | <i>Federal Univ. of Rio Grande do Norte, Brazil</i> |
| Hany MOHAMED ALY AHMED | <i>University of Malaya, Malaysia</i> |
| Hien NGO | <i>The University of Queensland, Australia</i> |
| Kaan ORHAN | <i>Ankara University, Turkey</i> |
| Mutlu ÖZCAN | <i>University of Zurich, Switzerland</i> |
| Buğra ÖZEN | <i>Istanbul Kemerburgaz University, Turkey</i> |
| Senem G.Y. ÖZER | <i>Adnan Menderes University, Turkey</i> |
| Taha ÖZYÜREK | <i>Ondokuz Mayıs University, Turkey</i> |
| Saul Martins PAIVA | <i>Universidade Federal de Minas Gerais, Brazil</i> |
| Aikaterini PAPATHANASIOU | <i>Tufts University, USA</i> |

International Editorial Board

| | |
|---------------------------|--|
| Jefferson Ricardo PEREIRA | <i>University of Southern Santa Catarina, Brazil</i> |
| Gianluca PLOTINO | <i>University of Rome, Italy</i> |
| Omar SHEIKH | <i>London North West Hospitals, UK</i> |
| Mohammad Ali SAGHIRI | <i>University of Wisconsin–Madison, USA</i> |
| Gianrico SPAGNUOLO | <i>University of Rome, Italy</i> |
| Zehra SÜSGÜN YILDIRIM | <i>University of Çukurova, Turkey</i> |
| Luca TESTARELLI | <i>Sapienza Univ. of Rome, Italy</i> |
| Emin Caner TÜMEN | <i>Dicle University, Turkey</i> |
| Şebnem TÜRKÜN | <i>Ege University, Turkey</i> |
| Changxiang WANG | <i>University of Birmingham, UK</i> |
| Cemil YEŞİLSOY | <i>Temple University, USA</i> |

Aims and Scope

International Dental Research is a multidisciplinary double-blind peer-reviewed dental journal publishing articles in the field of dentistry. The International Dental Research is the official tri-annually publication (April, August, December).

The International Dental Research publishes scientific articles, case reports and comparison studies evaluating materials and methods of dental treatment. Dentists can learn about new concepts in dental treatment and the latest advances in techniques and instrumentation in the one journal that helps them keep pace with rapid changes in this field.

The journal also aims to provide clinicians, scientists and students of dentistry with a knowledge transfer platform for rapid publication of reports through an international journal. The broad coverage of current research has given the journal an international reputation as an indispensable source for both basic scientists and clinicians engaged in understanding and preventing dental disease.

All articles will be critically reviewed by the editor and invited referees within 2 months.

The Editor welcomes manuscripts in the following key thematic areas in oral and maxillofacial sciences:

- Conservative and Restorative Dentistry
- Community Dentistry and Oral Epidemiology
- Dental Biomaterials
- Dental Traumatology
- Endodontics
- Esthetic and Implant Dentistry
- Oral Biosciences
- Oral and Maxillofacial Surgery
- Oral Medicine, Oral Pathology and Oral Microbiology
- Orthodontics
- Oral Radiology
- Pedodontics
- Periodontology and Periodontal Medicine
- Prosthodontics

Aims and Scope

International Dental Research is a multidisciplinary double-blind peer-reviewed dental journal publishing articles in the field of dentistry. The International Dental Research is the official tri-annually publication (April, August, December).

The International Dental Research publishes scientific articles, case reports and comparison studies evaluating materials and methods of dental treatment. Dentists can learn about new concepts in dental treatment and the latest advances in techniques and instrumentation in the one journal that helps them keep pace with rapid changes in this field.

The journal also aims to provide clinicians, scientists and students of dentistry with a knowledge transfer platform for rapid publication of reports through an international journal. The broad coverage of current research has given the journal an international reputation as an indispensable source for both basic scientists and clinicians engaged in understanding and preventing dental disease.

All articles will be critically reviewed by the editor and invited referees within 2 months.

The Editor welcomes manuscripts in the following key thematic areas in oral and maxillofacial sciences:

- Conservative and Restorative Dentistry
- Community Dentistry and Oral Epidemiology
- Dental Biomaterials
- Dental Traumatology
- Endodontics
- Esthetic and Implant Dentistry
- Oral Biosciences
- Oral and Maxillofacial Surgery
- Oral Medicine, Oral Pathology and Oral Microbiology
- Orthodontics
- Oral Radiology
- Pedodontics
- Periodontology and Periodontal Medicine
- Prosthodontics



Instruction to Authors

Author Guidelines

General Information

The International Dental Research is an international open access periodical published in accordance with independent, unbiased, double blind peer review principles. The International Dental Research is published 3 times a year on April, August, and December. The International Dental Research publishes original articles, case reports, review articles, editorial comments and letters to the editor prepared in fields of dentistry.

The publication languages of the International Dental Research is English and the Editorial Board encourages submissions from international authors. The journal's archive is available online for researchers and readers at www.dental-research.com, free of charge.

Copyright Statement should be signed and uploaded.

The editorial and publication processes of the journal are shaped in accordance with the guidelines of the International Council of Medical Journal Editors (ICMJE), the World Association of Medical Editors (WAME), the Council of Science Editors (CSE), the Committee on Publication Ethics (COPE), the European Association of Science Editors (EASE), and National Information Standards Organization (NISO). The journal conforms to the Principles of Transparency and Best Practice in Scholarly Publishing (doaj.org/bestpractice).

An approval of research protocols by Ethics Committee in accordance with international agreements (Helsinki Declaration of 1975, revised 2008, "Guide for the care and use of laboratory animals - www.nap.edu/catalog/5140.html/) is required for experimental, clinical and drug studies and some case reports. The ethics committee approval report should be screened and loaded into the system. In manuscripts reporting the results of an experimental study, it should be stated within the main text that the patients were informed in detail about the treatment technique and that the patient's consent was obtained. For studies carried out on animals, the measures taken to prevent pain and suffering of the animals should be stated clearly. Information on patient consent, name of the ethics committee and the ethics committee approval number should also be stated in the materials and methods section of the manuscript.

Pre-evaluation checks of each submission are carried out by the Editorial Board. Manuscripts are scanned for plagiarism and duplication at this stage. If an ethical problem is detected regarding plagiarism and duplication, the Editorial Board will act in accordance with the Committee on Publication Ethics (COPE). Manuscripts that pass this stage are assigned to at least two double blind peer-reviewers. Reviewers are selected among independent experts who have published publications in the international literature on the submission subject and received considerable amount of citations. Research articles, systematic reviews and meta-analysis manuscripts are also reviewed by a biostatistician. By submitting a manuscript to the journal, authors accept that the editor may implement changes on their manuscripts as long as the main idea of the manuscript is not interfered with.

Once a manuscript is accepted for publication, the author list of the manuscript can't be altered.

Manuscript Preparation

Manuscripts should be prepared in accordance with the ICMJE - Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (updated in December 2014 - available at www.icmje.org).

Original Investigations and Reviews should be presented in accordance with the following guidelines: randomized study - [CONSORT](#), observational study - [STROBE](#), study on diagnostic accuracy - [STARD](#), systematic reviews and meta-analysis [PRISMA](#), nonrandomized behavioral and public health intervention studies - [TREND](#).

Manuscripts can only be submitted through the journal's online manuscript submission and evaluation system, available www.dental-research.com. Manuscripts submitted via any other medium will not be evaluated. Evaluation process of submitted manuscripts takes 4 weeks on average.

Manuscripts are evaluated and published on the understanding that they are original contributions, and do not contain data that have been published elsewhere or are under consideration by another journal. Authors are required to make a full statement at the time of submission about all prior reports and submissions that might be considered duplicate or redundant publication, and mention any previously published abstracts for meeting presentations that contain partial or similar material in the cover letter. They must reference any similar previous publications in the manuscript.

Authors must obtain written permission from the copyright owner to reproduce previously published figures, tables, or any other material in both print and electronic formats and present it during submission. The original source should be cited within the references and below the reprinted material.

Authors are required to submit the following:

- [Copyright Transfer Form](#),
- [Author Contributions Form](#), and
- [ICMJE Potential Conflict of Interest Disclosure Form](#) (should be filled in by all contributing authors) during the initial submission. These forms are available for download at www.dental-research.com.

Preparation of the Manuscript

Title page: A separate title page should be submitted with all submissions and this page should include:

- The full title of the manuscript as well as a short title (running head) of no more than 50 characters,
- Name(s), affiliations, and highest academic degree(s) of the author(s),
- Grant information and detailed information on the other sources of support,
- Name, address, telephone (including the mobile phone number) and fax numbers, and email address of the corresponding author,
- Acknowledgment of the individuals who contributed to the preparation of the manuscript but who do not fulfill the authorship criteria.

Abstract: English abstract should be submitted with all submissions except for Letters to the Editor. The abstract of Original Articles should be structured with subheadings (Aim, Methodology, Results, and Conclusion). Please check Table 1 below for word count specifications.

Keywords: Each submission must be accompanied by a minimum of three to a maximum of six keywords for subject indexing at the end of the abstract. The keywords should be listed in full without abbreviations. The keywords should be selected from the National Library of Medicine, Medical Subject Headings database (<https://www.nlm.nih.gov/mesh/MBrowser.html>).

Manuscript Types

Original Articles: This is the most important type of article since it provides new information based on original research. The main text of original articles should be structured with Introduction, Methods, Results, Discussion, and Conclusion subheadings. Please check Table 1 for the limitations for Original Articles. Statistical analysis to support conclusions is usually necessary. Statistical analyses must be conducted in accordance with international statistical reporting standards (Altman DG, Gore SM, Gardner MJ, Pocock SJ. Statistical guidelines for contributors to medical journals. *Br Med J* 1983; 7; 1489-93). Information on statistical analyses should be provided with a separate subheading under the Materials and Methods section and the statistical software that was used during the process must be specified.

Units should be prepared in accordance with the International System of Units (SI).

Review Articles: Reviews prepared by authors who have extensive knowledge on a particular field and whose scientific background has been translated into a high volume of publications with a high citation potential are welcomed. These authors may even be invited by the journal. Reviews should describe, discuss, and evaluate the current level of knowledge of a topic in clinical practice and should guide future studies. The main text should contain Introduction, Clinical and Research Consequences, and Conclusion sections. Please check Table 1 for the limitations for Review Articles.

Case Reports, Case Series and Literature of Review: There is limited space for case reports in the journal and reports on rare cases or conditions that constitute challenges in diagnosis and treatment, those offering new therapies or revealing knowledge not included in the literature, and interesting and educative case reports are accepted for publication. The text should include Introduction, Case Presentation, Discussion, and Conclusion subheadings. Please check Table 1 for the limitations for Case Reports.

Letters to the Editor: This type of manuscript discusses important parts, overlooked aspects, or lacking parts of a previously published article. Articles on subjects within the scope of the journal that might attract the readers' attention, particularly educative cases, may also be submitted in the form of a "Letter to the Editor." Readers can also present their comments on the published manuscripts in the form of a "Letter to the Editor." Abstract, Keywords, and Tables, Figures, Images, and other media should not be included. The text should be unstructured. The manuscript that is being commented on must be properly cited within this manuscript.

Table 1. Limitations for each manuscript type

| Type of manuscript | Word limit | Abstract word limit | Reference limit | Table limit | Figure limit |
|-----------------------------------|------------|---------------------|-----------------|--------------------------|--------------------------|
| Original Article | 4000 | 300 (Structured) | 40 | 6 | 7 or total of 15 images |
| Review Article | 5000 | 300 | 80 | 6 | 10 or total of 20 images |
| Case Report | 1500 | 250 | 20 | No tables | 7 or total of 15 images |
| Case Series | 2500 | 250 | 20 | 10 or total of 20 images | 10 or total of 20 images |
| Case Report: Literature of Review | 3500 | 200 | 40 | 10 or total of 20 images | 10 or total of 20 images |
| Letter to the Editor | 500 | No abstract | 10 | No tables | No media |

Tables should be included in the main document, presented after the reference list, and they should be numbered consecutively in the order they are referred to within the main text. A descriptive title must be placed above the tables. Abbreviations used in the tables should be defined below the tables by footnotes (even if they are defined within the main text). Tables should be created using the “insert table” command of the word processing software and they should be arranged clearly to provide easy reading. Data presented in the tables should not be a repetition of the data presented within the main text but should be supporting the main text.

Figures and Figure Legends

Figures, graphics, and photographs should be submitted as separate files (in TIFF or JPEG format) through the submission system. The files should not be embedded in a Word document or the main document. When there are figure subunits, the subunits should not be merged to form a single image. Each subunit should be submitted separately through the submission system. Images should not be labelled (a, b, c, etc.) to indicate figure subunits. Thick and thin arrows, arrowheads, stars, asterisks, and similar marks can be used on the images to support figure legends. Like the rest of the submission, the figures too should be blind. Any information within the images that may indicate an individual or institution should be blinded. The minimum resolution of each submitted figure should be 300 DPI. To prevent delays in the evaluation process, all submitted figures should be clear in resolution and large in size (minimum dimensions: 100 × 100 mm). Figure legends should be listed at the end of the main document.

All acronyms and abbreviations used in the manuscript should be defined at first use, both in the abstract and in the main text. The abbreviation should be provided in parentheses following the definition.

When a drug, product, hardware, or software program is mentioned within the main text, product information, including the name of the product, the producer of the product, and city and the country of the company (including the state if in USA), should be provided in parentheses in the following format: “Discovery St PET/CT scanner (General Electric, Milwaukee, WI, USA)”

All references, tables, and figures should be referred to within the main text, and they should be numbered consecutively in the order they are referred to within the main text.

Limitations, drawbacks, and the shortcomings of original articles should be mentioned in the Discussion section before the conclusion paragraph. Please note that British English spelling and terminology should be used in the manuscripts.

References

While citing publications, preference should be given to the latest, most up-to-date publications. If an ahead-of-print publication is cited, the DOI number should be provided. Authors are responsible for the accuracy of references. Journal titles should be abbreviated in accordance with the journal abbreviations in Index Medicus/ MEDLINE/PubMed. When there are six or fewer authors, all authors should be listed. If there are seven or more authors, the first 3 authors should be listed followed by “et al.” In the main text of the manuscript, references should be cited using Arabic numbers in parentheses. The reference styles for different types of publications are presented in the following examples.

1. **Standard journal article:** Lahita R, Kluger J, Drayer DE, Koffler D, Reidenberg MM. Antibodies to nuclear antigens in patients treated with procainamide or acetylprocainamide. *N Engl J Med* 1979;301:1382-5.
2. **Article with published erratum:** Koffler D, Reidenberg MM. Antibodies to nuclear antigens in patients treated with procainamide or acetylprocainamide [published erratum appears in *N Engl J Med* 1979;302:322-5]. *N Engl J Med* 1979;301: 1382-5.

3. **Article in electronic form:** Drayer DE, Koffler D. Factors in the emergence of infectious diseases. *Emerg Infect Dis* [serial online] 1995 Jan-Mar [cited 1996 Jun 5];1(1):[24 screens]. Available from: URL:<http://www.cdc.gov/ncidod/EID/eid.htm>
4. **Article, no author given:** Cancer in South Africa [editorial]. *S Afr Med J* 1994;84:15.
5. **Book, personal author(s):** Ringsven MK, Bond D. *Gerontology and leadership skills for nurses*. 2nd ed. Albany (NY): Delmar Publishers; 1996.
6. **Book, editor(s) as author:** Norman IJ, Redfern SJ, editors. *Mental health care for elderly people*. New York: Churchill Livingstone; 1996.
7. **Book, Organization as author and publisher:** Institute of Medicine (US). *Looking at the future of the Medicaid program*. Washington: The Institute; 1992.
8. **Chapter in a book:** Phillips SJ, Whisnant JP. Hypertension and stroke. In: Laragh JH, Brenner BM, editors. *Hypertension: pathophysiology, diagnosis, and management*. 2nd ed. New York: Raven Press; 1995. p. 465-78.
9. **Conference proceedings:** Kimura J, Shibasaki H, editors. *Recent advances in clinical neurophysiology. Proceedings of the 10th International Congress of EMG and Clinical Neurophysiology*; 1995 Oct 15-19; Kyoto, Japan. Amsterdam: Elsevier; 1996.
10. **Conference paper:** Bengtsson S, Solheim BG. Enforcement of data protection, privacy and security in medical informatics. In: Lun KC, Degoulet P, Piemme TE, Rienhoff O, editors. *MEDINFO 92. Proceedings of the 7th World Congress on Medical Informatics*; 1992 Sep 6-10; Geneva, Switzerland.

Tables

Tables should be included in the main document and should be presented after the reference list. Tables should be numbered consecutively in the order they are referred to within the main text. A descriptive title should be provided for all tables and the titles should be placed above the tables. Abbreviations used in the tables should be defined below by footnotes (even if they are defined within the main text). Tables should be created using the "insert table" command of the word processing software and they should be arranged clearly to provide an easy reading. Data presented in the tables should not be a repetition of the data presented within the main text but should be supporting the main text.

Figures and figure legends

Figures, graphics, and photographs should be submitted as separate files (in TIFF or JPEG format) through the submission system. The files should not be embedded in a Word document or the main document. When there are figure subunits, the subunits should not be merged to form a single image. Each subunit should be submitted separately through the submission system. Images should not be labelled (a, b, c, etc.) to indicate figure subunits. Thick and thin arrows, arrowheads, stars, asterisks, abbreviations and similar marks can be used on the images to support figure legends. Like the rest of the submission, the figures too should be blind. Any information within the images that may indicate an individual or institution should be blinded. The minimum resolution of each submitted figure should be 300 DPI. To prevent delays in the evaluation process all submitted figures should be clear in resolution and large in size (minimum dimensions, 100×100 mm).

Figure legends should be listed at the end of the main document.

General

All acronyms and abbreviations used in the manuscript should be defined at first use, both in the abstract and in the main text. The abbreviation should be provided in parenthesis following the definition.

Statistical analysis should be performed in accordance with guidelines on reporting statistics in medical journals (Altman DG, Gore SM, Gardner MJ, Pocock SJ. Statistical guidelines for contributors to medical journals. *Br Med J* 1983; 7; 1489-1493.). Information on the statistical analysis process of the study should be provided within the main text.

When a drug, product, hardware, or software mentioned within the main text product information, the name and producer of the product should be provided in parenthesis in the following format: "Discovery ST PET/CT scanner (GE Healthcare)."

All references, tables, and figures should be referred to within the main text and they should be numbered consecutively in the order they are referred to within the main text.

Initial evaluation and Peer review process

Manuscripts submitted to International Dental Research will first go through a technical evaluation process where the editorial office staff will ensure that the manuscript is prepared and submitted in accordance with the journal's guidelines. Submissions that do not conform the journal's guidelines will be returned to the submitting author with technical correction requests.

All submissions are screened by a similarity detection software ([iThenticate](#) by [CrossCheck](#)), and those with an overall similarity index of greater than 20%, or duplication rate at or higher than 5% with a single source are returned back to authors without further evaluation along with the similarity report.

Manuscripts that conform the journal's guidelines will be reviewed by at least two external and independent peer reviewers during the evaluation process. Originality, high scientific quality, and citation potential of the manuscript are the most important criteria to be accepted for publication. The section editor and Editor in Chief are the final authority in the decision-making process for all submissions.

Revisions

When submitting a revised version of a paper, the author must submit a detailed "Response to reviewers" that states point by point how each issue raised by the reviewers has been covered and where it can be found (each reviewer's comment followed by the author's reply and line numbers where the changes have been made) as well as an annotated copy, and a clear copy of the main document.

Revised manuscripts must be submitted within 30 days from the date of the decision letter. If the revised version of the manuscript is not submitted within the allocated time, the revision option will be automatically cancelled by the submission system. If the submitting author(s) believe that additional time is required, they should request an extension before the initial 30-day period is over.

Proofs and DOI Number

Accepted manuscripts are copyedited for grammar, punctuation, and format. Following the copyediting process, the authors will be asked to review and approve the changes made during the process. Authors will be contacted for a second time after the layout process and will be asked to review and approve the PDF proof of their article for publication. Once the production process of a manuscript is completed it is published online on the journal's webpage as an ahead-of-print publication before it is included in its scheduled issue.

Permissions and Reprints

International Dental Research handles all requests to reproduce material from International Dental Research. For your convenience, please fill in the permission request form, available for download at the journal's webpage and e-mail a scanned version to info@dental-research.com. Please ensure that you include the full reference of the material you want to use (year of publication, volume and issue numbers, author, file of article, figure numbers where appropriate, etc.). International Dental Research also requires a detailed overview of how you intend to use the material (i.e., in a book, etc.).



Contents

Original Article

- 92 Retention force of zirconia bar retained implant overdenture: Clinical comparative study between PEEK and plastic clips
Radwa Mohsen Kamal Emera, Gilan Youssef Altonbary
- 99 Evaluation of error types and quality on panoramic radiography
Ceren Aktuna Belgin, Gözde Serindere
- 105 Evaluation of shear bond strength of amalgam restorations repaired with composite resin by different surface treatments
Suzan Cangül, Özkan Adıgüzel, Begüm Erpaçal, Mehmet Ünal, Musa Acartürk, Ömer Satıcı
- 111 Oral and maxillofacial surgery and dental rehabilitation under sedation and general anesthesia
Utku Nezh Yılmaz
- 119 Protective effect of Melatonin and Ganoderma lucidum against the negative effects of extremely low frequency electric and magnetic fields in the periodontal tissues
Mehmet Gül, Mehmet Cihan Yavaş, Serkan DüNDAR

A radiographic evaluation of impacted third molar teeth of patients in the South-east of Turkey: a retrospective study

Mehmet Çolak

127

The effect of antioxidants against electromagnetic field on enamel microhardness in rats

Ahmet Aras, Mehmet Sinan Doğan, Mehmet Cihan Yavaş

133

Evaluation of the effectiveness of remineralization preparations used in paediatric dentistry practices

Emine Tatar, İsmet Rezani Toptancı

138

Review Article

The maxillary expansion procedures, the types, and the root resorption analysis methods

Refika Topal, Seher Gündüz Arslan

145