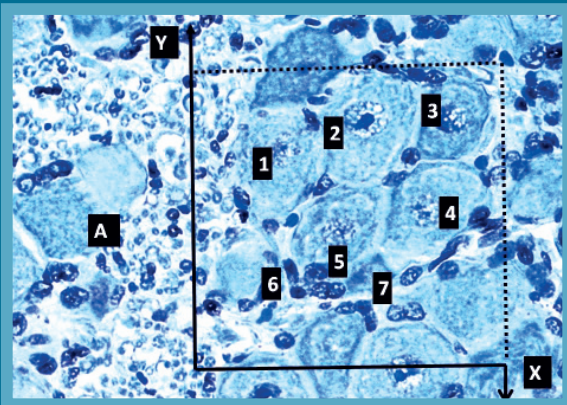


ISSN 1019-5149 - NLM ID 9423821  
VOLUME 21 - NUMBER 4 - YEAR 2011

# Turkish Neurosurgery

Official Journal of the Turkish Neurosurgical Society

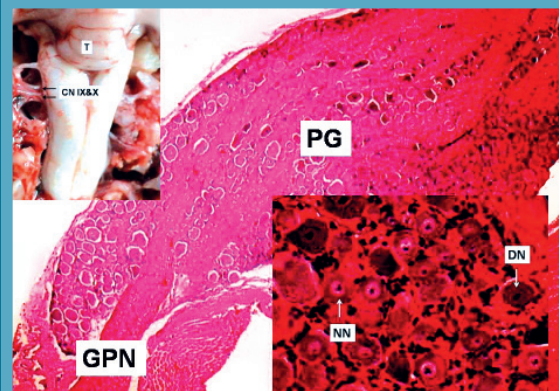


*Spinal Meningiomas: Recurrence in Ventrally Located Individuals on Long-Term Follow-Up; A Review of 46 Operated Cases*

*Hippocampal Neuronal Damage in Rats Exposed to a Double Hit: Irradiation and Hyperthermia*

*The Effect of Nitrogen Mustard on the Enzymatic Antioxidant Defense of Rat Brain Tissue and the Therapeutic Value of Proanthocyanidin*

*Effectiveness of Lumbar Zygapophysial Joint Blockage for Low Back Pain*

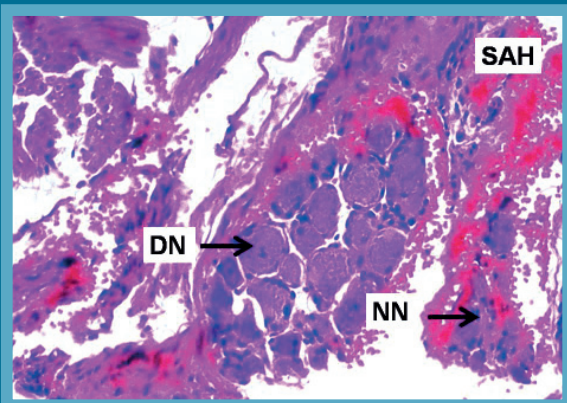


*Effects of Phenytoin Sodium on Dura Mater Healing in a Rat Model of CSF Leakage*

*The Effect of Choroidal Artery Vasospasm on Choroid Plexus Injury in Subarachnoid Hemorrhage: Experimental Study*

*Transoral Surgical Approach for Treatment of Symptomatic Atlantoaxial Cervical Synovial Cysts*

*Median Frontal Sutures – Incidence, Morphology and Their Surgical, Radiological Importance*



*The Far Lateral Approach for Intra-Dural Anteriorly Situated Tumours at the Craniovertebral Junction*

*Glutamic Acid Decarboxylase Immunoreactivity in the Mossy Fiber Terminals of the Hippocampus of Genetic Absence Epileptic Rats*

*Superior and Anterior Inferior Cerebellar Arteries and Their Relationship with Cerebello-pontine Angle Cranial Nerves Revisited in the Light of Cranial Cephalometric Indexes: A Cadaveric Study*





# Turkish Neurosurgery

Official Journal of the Turkish Neurosurgical Society

TURKISH NEUROSURGICAL SOCIETY

Volume: 21 Number: 4 Year: 2011

[www.turkishneurosurgery.org.tr](http://www.turkishneurosurgery.org.tr)

## PRESIDENTS

Nurhan Avman	1985-1986
Aykut Erbenli	1986-1987
Özdemir Gürçay	1988-1988
Tunçalp Özgen	1988-1989
Yücel Kanpolat	1989-1990
Osman E. Özcan	1990-1992
Ertekin Arasil	1992-1993
Yamaç Taşkın	1993-1995
Yücel Kanpolat	1995-1996
Nur Altınörs	1996-1997
Kemali Baykaner	1997-1998
Kaya Aksoy	1998-2000
Necmettin Pamir	2000-2002
Nurcan Özdamar	2002-2004
Selçuk Palaoğlu	2004-2006
Mehmet Zileli	2006-2008
Ethem Beşkonaklı	2008-2010
Murad Bavbek	2010-

## EDITORS

Tunçalp Özgen	1989-1989
Yücel Kanpolat	1989-1990
Osman E. Özcan	1990-1992
Selçuk Palaoğlu	1992-1994
Nur Altınörs	1994-1995
Selçuk Palaoğlu	1995-1996
Zafer Kars	1996-1998
Kaya Aksoy	1998-2000
Murad Bavbek	2000-2003
Erdener Timurkaynak	2003-2004
Kemal Benli	2004-2006
Hakan Caner	2007-

Turkish Neurosurgery has been accepted  
for indexing in:  
SCIENCE CITATION INDEX EXPANDED  
INDEX MEDICUS, MEDLINE, PubMed,  
Scopus

## Editor:

Hakan Caner : hakanc@baskent-ank.edu.tr

## Associate Editors:

Burçak Bilginer	: burcak@tr.net
Bülent Düz	: bulentduz@gmail.com
Salih Gülşen	: salihgulsen07@gmail.com
Hakan Seçkin	: hakanseckin@tr.net
Sait Şirin	: drsirir@yahoo.com
Cem Yılmaz	: cemeriyilmaz@gmail.com

## EDITORIAL BOARD

### International

Ossama Al-Mefty, <i>USA</i>	Neal F. Kassell, <i>USA</i>	James T. Rutka, <i>Canada</i>
Michael J. Apuzzo, <i>USA</i>	Takeski Kawase, <i>Japan</i>	Christian Sainte-Rose, <i>France</i>
Issam A. Awad, <i>USA</i>	Andrew H. Kaye, <i>Australia</i>	Majid Samii, <i>Germany</i>
Mustafa Başkaya, <i>USA</i>	Hidenori Kobayashi, <i>Japan</i>	Bernd W. Scheitauer, <i>USA</i>
Edward C. Benzel, <i>USA</i>	Shigeaki Kobayashi, <i>Japan</i>	Johannes Schramm, <i>Germany</i>
Peter M. Black, <i>USA</i>	Edward R. Laws, Jr, <i>USA</i>	Laligam Sekhar, <i>USA</i>
Mario Brock, <i>Germany</i>	Kevin Lee, <i>USA</i>	Marc Sindou, <i>France</i>
Rudolph Fahlbusch, <i>Germany</i>	Joseph C. Maroon, <i>USA</i>	Robert F. Spetzler, <i>USA</i>
Michael Fehlings, <i>Canada</i>	David G. McLone, <i>USA</i>	Kintomo Takakura, <i>Japan</i>
Fleming Gjerris, <i>Denmark</i>	Dattatraya Muzumdar, <i>India</i>	David GT Thomas, <i>England</i>
Ziya Gökaslan, <i>USA</i>	Evandro de Oliveira, <i>Brazil</i>	Nicolas de Tribolet, <i>Switzerland</i>
Murat Günel, <i>USA</i>	Robert J. Ojemann, <i>USA</i>	M. Gazi Yaşargil, <i>USA</i>
John A. Jane, <i>USA</i>	Albert L. Rhoton Jr, <i>USA</i>	
Tetsuo Kanno, <i>Japan</i>	Concezio Di Rocco, <i>Italy</i>	

### National

Bektaş Açıköz, <i>Zonguldak</i>	İlhan Elmacı, <i>İstanbul</i>	Sait Naderi, <i>İstanbul</i>
Nejat Akalan, <i>Ankara</i>	Atilla Erdem, <i>Ankara</i>	Nezih Oktar, <i>İzmir</i>
Nur Altınörs, <i>Ankara</i>	Yusuf Erşahin, <i>İzmir</i>	Fahir Özer, <i>İstanbul</i>
Nuri Arda, <i>İzmir</i>	Engin Gönül, <i>Ankara</i>	Tunçalp Özgen, <i>Ankara</i>
Ali Arslantaş, <i>Eskişehir</i>	Murat Hancı, <i>İstanbul</i>	Ertuğ Özkal, <i>Konya</i>
Başar Atalay, <i>İstanbul</i>	Faruk İldan, <i>Adana</i>	Selçuk Palaoğlu, <i>Ankara</i>
Ayhan Attar, <i>Ankara</i>	Servet İnci, <i>Ankara</i>	Necmettin Pamir, <i>İstanbul</i>
Murad Bavbek, <i>Ankara</i>	Yücel Kanpolat, <i>Ankara</i>	Ali Savaş, <i>Ankara</i>
Kemali Baykaner, <i>Ankara</i>	Zafer Kars, <i>Sivas</i>	İhsan Solaroğlu, <i>Ankara</i>
Zafer Berkman, <i>İstanbul</i>	M. Yaşar Kaynar, <i>İstanbul</i>	Tuncer Süzer, <i>İstanbul</i>
Ethem Beşkonaklı, <i>Ankara</i>	Evren Keleş, <i>İstanbul</i>	İnan Turantan, <i>İstanbul</i>
Süleyman Çaylı, <i>Malatya</i>	Talat Kırış, <i>İstanbul</i>	Uğur Türe, <i>İstanbul</i>
Fahrettin Çelik, <i>Samsun</i>	Kemal Koç, <i>Kayseri</i>	Mehmet Zileli, <i>İzmir</i>
M. Nusret Demircan, <i>İstanbul</i>	Ender Korfalı, <i>Bursa</i>	İbrahim Ziyal, <i>Ankara</i>
Nihat Egemen, <i>Ankara</i>	Melike Mut, <i>Ankara</i>	

**Redaction:** Dr. Aydın Yuluğ, Aytaç Yıldızeli

**Secretary:** Mukadder Karakaya Çerçi, Nurhan Şen

# Turkish Neurosurgery

Volume: 21 Number: 4 Year: 2011

Official Journal of the Turkish Neurosurgical Society

Published quarterly by the Turkish Neurosurgical Society  
(January, April, July, October)

Owned and controlled by the Turkish Neurosurgical Society

Copyright owner on behalf of the Turkish Neurosurgical Society:  
**Murad BAVBEK**

Publishing Manager:  
**Uğur TÜRE**

Key title: Turkish Neurosurgery  
Abbreviated key title: Turk Neurosurg  
[www.turkishneurosurgery.org.tr](http://www.turkishneurosurgery.org.tr)

**ISSN:** 1019-5149

**NLM ID:** 9423821

Subscription: Sent free to the Turkish Neurosurgical Society members.  
Non-members should contact the Society for subscription.

**Publishing Services**

BULUŞ DESIGN AND PRINTING SERVICES COMPANY  
Bahriye Üçok Caddesi 9/1 Beşevler, 06500 Ankara, Turkey  
Phone: +90 312 222 44 06 Fax: +90 312 222 44 07  
[www.bulustasarim.com.tr](http://www.bulustasarim.com.tr)

**Printed at**

Miki Matbaacılık San. ve Tic. Ltd. Şti.  
Matbaacılar Sanayi Sitesi 506 Sk. No: 27 İvedik, Ankara, Turkey  
Phone: +90 312 395 21 28

This issue is published as: 1150 copies.

Printing Date: 31.10.2011

---

Turkish Neurosurgical Society  
Taşkent Caddesi 13/4 06500 Bahçelievler, Ankara/TURKEY  
Phone: +90 312 212 64 08 Fax : +90 312 215 46 26  
E-mail: [info@turkknorosirurji.org.tr](mailto:info@turkknorosirurji.org.tr)  
[www.turkknorosirurji.org.tr](http://www.turkknorosirurji.org.tr)  
[www.turkishneurosurgery.org.tr](http://www.turkishneurosurgery.org.tr)

---

Review of the articles in the journal to make sure they conform to publishing standards, typesetting, the review of English abstract and sources, getting the journal ready for publication and finally the publishing process has been the responsibility of Buluş Design and Printing Services Company.

The paper used to print this journal conforms to ISO 9705: 1994 standard (Requirements for Permanence).  
The National Library of Medicine suggests that biomedical publications be printed on acid-free paper (alkaline paper).

---

## INSTRUCTION TO THE AUTHORS

**Turkish Neurosurgery** is a peer-reviewed, multidisciplinary journal directed at an audience of neurosurgery physicians and scientists. The official language of the journal is **English**. The journal publishes original articles in the form of clinical and basic research. *Turkish Neurosurgery* will only publish studies that have institutional review board (IRB) approval and have strictly observed a sufficient follow-up period. With the exception of reference presentation, *Turkish Neurosurgery* requires that all manuscripts be prepared in accordance with the *Uniform Requirements for Manuscripts Submitted to Biomedical Journals*.

Turkish Neurosurgery periodically publishes the following papers: Original article, Reviews, Clinical and Experimental Studies, Case Reports, Technical notes, Historical Perspective, and Letters to the editors.

### Manuscript Submission

Authors are to submit their manuscripts through the Web-based tracking system at <http://www.turkishneurosurgery.org.tr>. The site contains instructions and advice on how to submit manuscripts, guidance on the creation/scanning and saving of electronic art, and supporting documentation. In addition to allowing authors to submit manuscripts on the Web, the site allows authors to follow the progression of their manuscript through the peer review process. Authors who submit their manuscripts through the Web-based tracking system are asked not to send hard copies of the manuscript to the editorial office. Please address all inquiries regarding manuscripts not yet accepted or published to the Journal's editorial office. The editorial office will acknowledge receipt of your manuscript and will send you a manuscript number for reference.

### Revised Submission

Author's comments to the reviewers are required for revised submissions. Authors must address the reviewer's concerns/suggestions and whether the change was made or not. Authors must also highlight the changes made within the text. Do not track the additions or deletions to the manuscript. If the Authors do not want to revise the manuscript within a period of two months the manuscript will automatically be declined.

**Patient anonymity and informed consent:** It is the author's responsibility to ensure that a patient's anonymity is carefully protected and to verify that any experimental investigation with human subjects reported in the manuscript was performed with informed consent and followed all the guidelines for experimental studies with human subjects required by the institution(s) with which all the authors are affiliated. Authors should mask patients' eyes, private parts and remove patients' names from all figures.

**Copyright:** All authors must sign a copy of the Journal's "Copyright Transfer/Conflict of Interest and Device Status Form" and submit it to the Editorial Office if the manuscript is accepted for publication in Turkish Neurosurgery. The authors of all published material must sign this form at the time of manuscript acceptance.

**Permissions:** Authors must submit written permission from the copyright owner (usually the publisher) to use direct quotations, tables, or illustrations that have appeared in copyrighted form elsewhere, along with complete details about the source. Any permissions fees that might be required by the copyright owner are the responsibility of the authors requesting use of the borrowed material and not the Turkish Neurosurgical Society.

### Preparation of Manuscript

Manuscripts that do not adhere to the following instructions **WILL BE RETURNED** to the corresponding author for technical revision before undergoing peer review.

**General format:** All manuscripts should be submitted in English, and formatted for standard 8 1/2 x 11-inch (21 x 28-cm) paper with at least a 1-inch (2.5 cm) margin on all sides and double-spaced.

**Style:** Pattern manuscript style after the *American Medical Association Manual of Style (9th edition)*, *Stedman's Medical Dictionary (27th edition)* and *Merriam Webster's Collegiate Dictionary (10th edition)* should be used as standard references. Refer to drugs and therapeutic agents by their accepted generic or chemical names, and do not abbreviate them. Use code numbers only when a generic name is not yet available. In that case, supply the chemical name and a figure giving the chemical structure of the drug. Capitalize the trade names of drugs and place them in parentheses after the generic names. To comply with trademark law, include the name and location (city and state in USA; city and country outside USA) of the manufacturer of any drug, supply, or equipment mentioned in the manuscript. Use the metric system to express the units of measure and degrees Celsius to express temperatures, and SI units rather than conventional units.

**Submit the manuscript electronically via:** <http://www.turkishneurosurgery.org.tr> in the following order:

**1) Title page:** Include on the title page (a) complete manuscript title; (b) authors' full names, highest academic degrees, and affiliations; (c) name and address for correspondence, including fax number, telephone number, and e-mail address; (d) address for reprints if different from that of corresponding author; (e) sources of support that require acknowledgment; (f) any other acknowledgment the authors wish to include. Please verify that the spelling, order, and affiliation of each author are correct. The Journal is not responsible for published misspelled names due to author error. **A Running Head** should appear in the title page. The running head should be no more than three to five words from the title, and should **NOT** include the authors' names.

**2) Structured Abstract (only for clinical and experimental research papers),** and Key Words. The following subheads must be included in the Structured Abstract: **Objective (Background), Methods, Results, Conclusions**. Do not cite references in the abstract, and limit the use of abbreviations and acronyms. The structured abstract must **be no more**

than 200 words. List three to eight **Key Words after the Abstract**. It is not necessary to provide a structured abstract for submissions to the Case Reports, Review article, Technical note, Historical article and Letters to the editor sections.

3) **Text:** Organize the manuscript into four main headings: **Introduction, Materials and Methods, Results, and Discussion**. For Clinical Trials, Experimental and Anatomic Studies and similar study designs, please attach the Ethical Committee Approval Form to the manuscript submission. Define abbreviations at first mention in text and in each table and figure. If a brand name is cited, supply the manufacturer's name and address (City and state/country).

**Terms:** Do not use the term hardware. Acceptable substitutions include implants and instrumentation. Constructs or montage may be used if the reference is to a particular pattern of fixation points for the instrumentation.

**Abbreviations:** For a list of standard abbreviations, consult the Council of Biology Editors Style Guide (available from the Council of Science Editors, 9650 Rockville Pike, Bethesda, MD 20814) or other standard sources. Write out the full term for each abbreviation at its first use unless it is a standard unit of measure.

4) **Supplemental video files should be submitted following these conditions:**

- I- .wmv, .mov, .flv, .qt, .mpg, .mpeg, .mp4 formats only
- II- Video files should be formatted with a 320 x 240 pixel minimum screen size.
- III- Videos MUST include narration from the senior author in English.
- IV- Only 1 supplemental video may be uploaded. Supplemental video should be no longer than 8 MB. Videos may include narration from the senior author in English.

5) **References:** The authors are responsible for the accuracy of the references. Key the references (double-spaced) at the end of the manuscript. Cite references in text in alphabetical order. Do not link the references to the text. Cite unpublished data, such as papers submitted but not yet accepted for publication or personal communications, in parentheses in the text. List all authors of the reference. Refer to the List of Journals Indexed in Index Medicus for abbreviations of journal names, or access the list at <http://www.nlm.nih.gov/tsd/serials/lji.html>. Sample references are given below:

#### *Journal article*

1. Guiot BH, Khoo LT, Fessler RG: A minimally invasive technique for decompression of the lumbar spine. *Turkish Neurosurgery* 27: 432-438, 2002

#### *Book chapter*

2. Sweitzer S, Arruda J, DeLeo J: The cytokine challenge: Methods for the detection of central cytokines in rodent models of persistent pain. In: Kruger L, ed. *Methods in Pain Research*. Boca Raton, FL: CRC Press, 2001: 109-132

#### *Entire book*

3. Atlas SW: *Magnetic Resonance Imaging of the Brain and Spine*. Philadelphia: Lippincott Williams & Wilkins, 2001.

#### *Software*

4. Epi Info [computer program]. Version 6. Atlanta: Centers for Disease Control and Prevention, 1994.

#### *Online journals*

5. Friedman SA. Preeclampsia: A review of the role of prostaglandins. *Obstet Gynecol* [serial online]. January 1988;71:22-37. Available from: BRS Information Technologies, McLean, VA. Accessed December 15, 1990.

#### *Database*

6. CANCERNET-PDQ [database online]. Bethesda, MD: National Cancer Institute, 1996. Updated March 29, 1996.

#### *World Wide Web*

7. Gostin LO. Drug use and HIV/AIDS [JAMA HIV/AIDS web site]. June 1, 1996. Available at: <http://www.ama-assn.org/special/hiv/ethics>. Accessed June 26, 1997.

#### 5) **Tables and Figures:**

**Tables:** Create tables in **Word** format using the table creating and editing feature of your word processing software. Do not use Excel or comparable spreadsheet programs. **Tables should not exceed page width of 41 picas or 17.5 cm**. Supply tables together in a separate file. Cite tables consecutively in the text, and number them in that order. Key each on a separate sheet, include the table title, appropriate column heads, and explanatory legends (including definitions of any abbreviations used). **Do not embed tables within the body of the manuscript**. They should be self-explanatory and should supplement, rather than duplicate, the material in the text.

**Digital Figures:** All electronic art can be submitted through the Web-based tracking system <http://www.turkishneurosurgery.org.tr>

1. **Format:** Electronic art should be created/scanned and saved and submitted either as a **JPEG file**.

2. **Sizing and Resolution:** Line art must have a resolution of at least 1200 dpi (dots per inch), and electronic photographs, radiographs, CT scans, and scanned images must have a resolution of at least 300 dpi. Figures should be sized to fit either 1 column (20 picas/8.4 cm), 1 1/2 columns (30 picas/12.65 cm) OR 2 columns (41 picas/17.5 cm) on a page. Sizing and Resolution can be checked through the free Sheridan Digital art checker at <http://dx.sheridan.com/onl>

3. **Fonts:** If fonts are used in the artwork, they must be converted to paths or outlines or they must be embedded in the files. Fonts must be 8 pt and be sized consistently throughout the artwork. The best font to use is Helvetica.

**Figure legends:** Legends must be submitted for all figures. They should be brief and specific and less than 150 characters or approximately 50 words. List figure legends on a separate page at the end of the manuscript text.

**Color figures:** The journal accepts for publication color figures that will enhance an article. **Authors who submit color figures will receive an estimate of the cost for color reproduction**. If they decide not to pay for color reproduction, they can request that the figures be converted to black and white at no charge. The authors may also request that their color figures be posted online only.

## Manuscript Checklist (before submission. For author reference only)

1. Title page
  - Corresponding author designated, and full mailing address included on title page
  - E-mail address of corresponding author included on title page
  - Running head
  - Permission to reproduce copyrighted materials or signed patient consent forms
  - Acknowledgments listed for grants, technical support, and corporate support on title page
2. Structured abstract with key words (200 words)
3. Manuscript text with page numbers
4. Figure legends
5. Tables (Word, Wordperfect)
6. Figures (jpeg)
7. References double-spaced and cited in alphabetical order

**Letter to the Editor:** Letters to the Editor can also be submitted through Editorial Manager. Letters should refer to the title and authors of the article the letter is about and should be no longer than **300** words with no more than 3 references. Letters to the Editor are sent to the article authors for response. The Editor-in-Chief makes the final decision on whether letters to the editor and the responses are published.

## After Acceptance

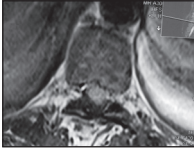
**Page proofs and corrections:** Corresponding authors will receive electronic page proofs to check the copyedited and typeset article before publication. Portable document format (PDF) files of the typeset pages and support documents (e.g., reprint order form) will be sent to the corresponding author via e-mail. Complete instructions for downloading and printing the files and for faxing the corrected pages to the publisher will be provided with the e-mail. Authors without an e-mail address will receive traditional page proofs. It is the author's responsibility to ensure that there are no errors in the proofs. Changes that have been made to conform to journal style will stand if they do not alter the author's meaning. Only the most critical changes of the accuracy of the content will be made. Changes that are stylistic or are a reworking of previously accepted material will not be allowed. The publisher reserves the right to deny any changes that do not affect the accuracy of the content. Authors may be charged for alterations to the proofs beyond those required to correct errors or to answer queries. Proofs must be checked carefully and corrections faxed within 24 to 48 hours of receipt, as requested in the cover letter accompanying the page proofs.

**Publisher's contact:** Fax corrected page proofs, reprint order forms, and any other related materials to Journal Production Editor, Turkish Neurosurgery, +90 312 212 64 08. Color proofs should be returned to Journal Production Editor, Turkish Neurosurgery, Taşkent Caddesi 13/4, Bahçelievler-06500 ANKARA, TURKEY

**Reprints:** Authors will receive a reprint order form and a price list with the page proofs. Reprint requests should be faxed with the corrected proofs, if possible. Reprints are normally shipped 6 to 8 weeks after publication of the issue in which the item appears. Contact the Reprint Department, Taşkent Caddesi No: 13/4, Bahçelievler-06500 ANKARA, TURKEY

## ORIGINAL INVESTIGATIONS

449

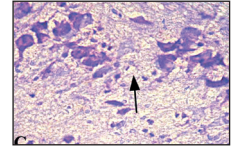

**Spinal Meningiomas: Recurrence in Ventrally Located Individuals on Long-Term Follow-Up; A Review of 46 Operated Cases**
*Spinal Meningiomlar: Ventral Lokalizasyonlarda Uzun Dönemde Görülen Rekürrens; Opere Edilen 46 Olgunun Retrospektif İncelemesi*

Lutfu POSTALCI, Bekir TUGCU, Abuzer GUNGOR, Gucluhan GUCLU

454

**Hippocampal Neuronal Damage in Rats Exposed to a Double Hit: Irradiation and Hyperthermia**
*Radyasyon ve Hipertermi Uygulanmış Siçanlarda Hipokampal Nöronal Hasar*

Gozde ERKANLI SENTURK, Cihan ISLER, Rahsan KEMERDERE, Mustafa Onur ULU, Cenk UMay, Aydan OZKAYMAKCI, Gulhan Rezzan AKER, Feriha ERCAN, Cigdem OZKARA, Filiz ONAT, Mustafa UZAN



461

**The Effect of Nitrogen Mustard on the Enzymatic Antioxidant Defense of Rat Brain Tissue and the Therapeutic Value of Proanthocyanidin**
*Nitrogen Mustard'ın Rat Beyin Dokusunda Enzimatik Antioksidan Savunma Üzerine Etkisi ve Proantosiyanidin'in Tedavi Değeri*

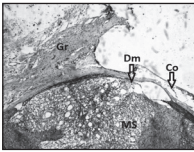
Ayhan TEKINER, Dogan YUCEL, Mehmet Akif BAYAR, Orhan YUCEL, Yavuz ERDEM, Jale KARAKAYA

467

**Effectiveness of Lumbar Zygapophysial Joint Blockage for Low Back Pain**
*Bel Ağrısında Lomber Zigapofizeal Eklem Blokajının Etkinliği*

Bahattin CELIK, Uygur ER, Serkan SIMSEK, Tibet ALTUG, Murad BAVBEK

471

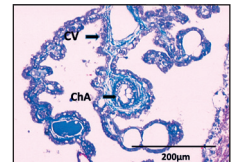

**Effects of Phenytoin Sodium on Dura Mater Healing in a Rat Model of CSF Leakage**
*BOS Kaçağı Oluşturulan Rat Modelinde Fenitoin Sodyumun Dura Mater İyileşmesi Üzerine Etkileri*

Ertan ERGUN, Gokhan KURT, Mehmet TONGE, Hamit AYTAR, Murat TAS, Kemali BAYKANER, Necdet CEVIKER

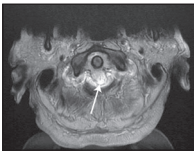
477

**The Effect of Choroidal Artery Vasospasm on Choroid Plexus Injury in Subarachnoid Hemorrhage: Experimental Study**
*Subaraknoid Kanamada Koroidal Arter Vazospazmının Koroid Pleksus Hasarı Üzerine Etkisi: Deneysel Çalışma*

Adem YILMAZ, Mehmet Dumlu AYDIN, Ayhan KANAT, Ahmet Murat MUSLUMAN, Sare ALTAS, Yunus AYDIN, Muhammet CALIK, Nesrin GURSAN



483

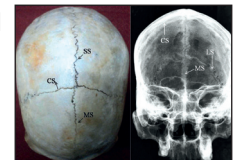

**Transoral Surgical Approach for Treatment of Symptomatic Atlantoaxial Cervical Synovial Cysts**
*Semtomatik Servikal Atlantoaksiyal Sinoviyal Kistlerin Transoral Cerrahi Yaklaşım ile Tedavisi*

Mark K. LYONS, Barry BIRCH

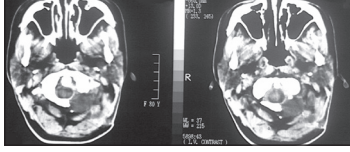
489

**Median Frontal Sutures – Incidence, Morphology and Their Surgical, Radiological Importance**
*Medyan Frontal Sütür - İnsidansı, Morfoloji ve Cerrahi, Radyolojik Önemi*

B.V. MURLIMANJU, Latha V. PRABHU, Mangala M. PAI, Avlyn Anisha GOVEAS, M.S. SOMESH, K.V.N. DHANANJAYA



494



### The Far Lateral Approach for Intra-Dural Anteriorly Situated Tumours at the Craniovertebral Junction

*Kraniovertebral Bileşke Anterioruna Yerleşmiş İntradural Tümörlere Far Lateral Yaklaşım*

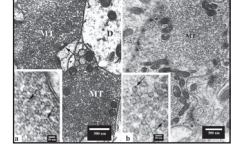
Basim AYOUB

499

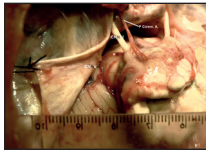
### Glutamic Acid Decarboxylase Immunoreactivity in the Mossy Fiber Terminals of the Hippocampus of Genetic Absence Epileptic Rats

*Genetik Absans Epilepsili Sıçan Hipokampusu Mossy Lif Terminallerinde Glutamik Asit Dekarboksilaz İmmünreaktivitesi*

Serap SIRVANCI, Yasemin CANILLIOGLU, Dilek AKAKIN, Sukru MIDILLIOGLU, Sercan Dogukan YILDIZ, Filiz ONAT, Tanguil SAN



504



### Superior and Anterior Inferior Cerebellar Arteries and Their Relationship with Cerebello-pontine Angle Cranial Nerves Revisited in the Light of Cranial Cephalometric Indexes: A Cadaveric Study

*Kranial Sefalometrik Değerlendirme ile Süperior ve Anterior Inferior Serebellar Arterlerin Serebellopontin Açığı ve Kranial Sinirler ile Olan İlişkinin Değerlendirilmesi: Kadavra Çalışması*

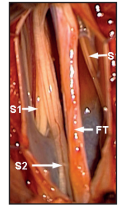
Zohreh HABIBI, Ali Tayebi MEYBODI, Farid MALEKI, Seyed Ali Fakhr TABATABAI

516

### Tethered Cord Syndrome in Childhood: Special Emphasis on the Surgical Technique and Review of the Literature with Our Experience

*Çocukluk Çağı Gergin Omurilik Sendromu: Cerrahi Tekniğe Vurgu ve Tecrübemiz Eşliğinde Literatür İncelemesi*

Ilker SOLMAZ, Yusuf IZCI, Baki ALBAYRAK, Eralp CETINALP, Cahit KURAL, Goksin SENGUL, Cuneyt GOCMEZ, Serhat PUSAT, Yusuf TUZUN



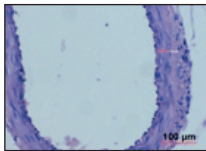
522

### Percutaneous Evacuation for Treatment of Subdural Hematoma and Outcome in 28 Patients

*Subdural Hematomun Perkütan Yoldan Boşaltılması ve 28 Hastanın Sonuçları*

Keyvan MOSTOFI, Dominique MARNET

527



### The Effects of Alpha Lipoic Acid on Cerebral Vasospasm Following Experimental Subarachnoid Hemorrhage in the Rabbit

*Alfa-Lipoik Asidin Tavşanlarda Oluşturulan Deneysel Subaraknoid Kanama Sonrası Görülen Serebral Vazospazm Üzerine Etkileri*

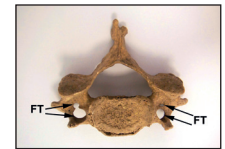
Mehmet Fatih ERDI, Onder GUNEY, Aysel KIYICI, Hasan ESEN

534

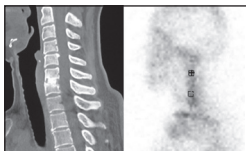
### Double Foramen Transversarium Variation in Ancient Byzantine Cervical Vertebrae: Preliminary Report of an Anthropological Study

*Eski Bizans Servikal Vertebralarında Çift Foramen Transversarium Varyasyonu: Antropolojik Bir Çalışmanın Ön Sonucu*

Serdar KAYA, Nalan Damla YILMAZ, Serhat PUSAT, Cahit KURAL, Alpaslan KIRIK, Yusuf IZCI



539



### Can Scintigraphy Explain Prolonged Postoperative Neck Pain?

*Sintigrafisi Uzamış Postoperatif Boyun Ağrısını Açıklayabilir mi?*

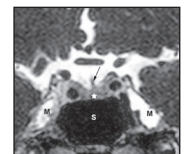
Ahmet CETINKAL, Serdar KAYA, Murat KUTLAY, Murat VELIOGLU, Muammer URHAN, Ahmet COLAK, Nusret DEMIRCAN

545

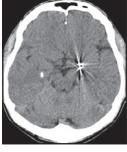
### Location of the Abducent Nerve within the Cavernous Sinus

*Sinus Cavernosus İçindeki Nervus Abdusens'in Lokalizasyonu*

Yalcin KIRICI, Cenk KILIC, Murat KOCAOGLU



549



### Epilepsy Surgery in Patients with Unilateral Mesial Temporal Sclerosis and Contralateral Scalp Ictal Onset

*Tek Taraflı Mezial Temporal Sklerozu ve Skalp EEG'de Kontralateral İktal Başlangıcı Olan Hastalarda Epilepsi Cerrahisi*

F. Irsel TEZER, Nese DERICIOGLU, Gokhan BOZKURT, Burcak BILGINER, Nejat AKALAN, Serap SAYGI

555

### Multichannel Microelectrode Recording Influences Final Electrode Placement in Pallidal Deep Brain Stimulation for Parkinson's Disease: Report of Twenty Consecutive Cases

*Parkinson Hastalığında Çok Kanallı Mikroelektrot Kaydının Derin Pallidal Uyarım İçin Yapılan Son Elektrot Yerleşimine Olan Etkisi*

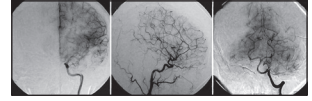
Mark K. LYONS, Kristine ZIEMBA, Virgilio EVIDENTE

559

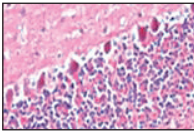
### The Effect of Degenerated Neuron Density of Petrosal Ganglion on the Development of Blood Pressure Variabilities after Subarachnoid Hemorrhage in a Rabbit Model: An Experimental Study

*Tavşan Modelinde Subaraknoid Kanama Sonrası Gelişen Kan Basıncı Değişikliklerine Petrosal Gangliondaki Dejenere Nöron Dansitesinin Etkisi: Deneysel Çalışma*

Ahmet Murat MUSLUMAN, Mehmet Dumlu AYDIN, Adem YILMAZ, Tufan CANSEVER, Ayhan KANAT, Cemal GUNDOĞDU, Zeynep ÇAKIR, Mucahit EMET, Nesrin GURSAN, Nazan AYDIN, Bunyamin UNAL



567



### Occlusion of Middle Cerebral Artery Induces Apoptosis of Cerebellar Cortex Neural Cells via Caspase-3 in Rats

*Orta Serebral Arterin Tıkanmasının Ratlarda Kaspaz-3 Yolu ile Apoptozu İndüklemesi*

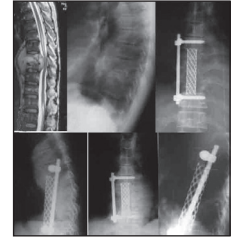
Li JIE, Che YUQIN, Diao YAO, Hou SHUAI, Wang YUANYUAN

575

### Anterior Radical Debridement and Reconstruction Using Titanium Mesh Cage for the Surgical Treatment of Thoracic and Thoracolumbar Spinal Tuberculosis: Minimum Five-Year Follow-Up

*Anterior Yoldan Radikal Doku Debridmanı Yapılan ve Titanyum Ağ Kafesler ile Omurga Rekonstrüksiyonu Yapılan Torakal ve Torakolomber Omurga Tüberkulozu Olan Hastaların Beş Yıllık Takipleri*

Bing WANG, Guohua L<sup>1</sup>, Weidong LIU, Ivan CHENG



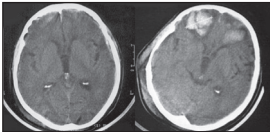
582

### The Safety and Diagnostic Value of Frame-Based and CT-Guided Stereotactic Brain Biopsy Technique

*Bilgisayarlı Tomografi Rehberliğinde Stereotaktik Beyin Biyopsisi Tekniğinin Güvenilirliği ve Tanısal Değeri*

Mehmet ERSAHİN, Numan KARAASLAN, Mehmet Sabri GURBUZ, Tayfun HAKAN, Mehmet Zafer BERKMAN, Osman EKİNCİ, Nazım DENİZLİ, Fügen VARDAR AKER

591



### Early and Delayed CT Findings in Patients with Mild-to-Moderate Head Trauma

*Hafif-Orta Kafa Travmalı Hastaların Erken ve Geç BT Bulguları*

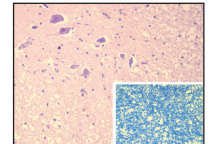
Sedat DALBAYRAK, Sevtap GUMUSTAS, Ahmet BAL, Gur AKANSEL

599

### Ghrelin Alleviates Spinal Cord Injury in Rats Via Its Anti-inflammatory Effects

*Ghrelin Anti-inflamatuar Etkileri Yoluyla Ratlarda Spinal Kord Hasarını Azaltır*

Mehmet ERŞAHİN, Hale Zerrin TOKLU, Can ERZİK, Dilek AKAKIN, Şermin TETİK, Göksel ŞENER, Berrak ÇAĞLAYAN YEĞEN



606



### Two Level Cervical Corpectomy with İliac Crest Fusion and Rigid Plate Fixation: A Retrospective Study with a Three-Year Follow-Up

*İliak Krest Füzyonu ve Rijit Plak Fiksasyonu ile Beraber İki Seviye Servikal Korpektomi: Üç Yıllık Takip ile Retrospektif Bir Çalışma*

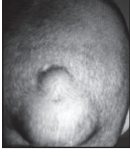
Kadir KOTIL, Rabia TARI

- 613** **The Traumatic Brain Injury: Diagnosis and Management at Emergency Department by General Surgeon. A Retrospective Critical Analysis on the Use of the CT Head Scan**  
*Travmatik Beyin Hasarı: Travmatik Beyin Hasarının Genel Cerrah Tarafından Teşhis ve Yönetimi. Bilgisayarlı Beyin Tomografisinin Kullanımının Retrospektif Bir İncelemesi*  
John SIASIOS, Soultana FOUTZITZI, Savas DEFTEREOS, Michael KARANIKAS, Theodosios BIRBILIS
- 
- 618** **The Effect of TENS on Pain, Function, Depression, and Analgesic Consumption in the Early Postoperative Period with Spinal Surgery Patients**  
*Postoperatif Erken Dönemde TENS Kullanımının Analjezik Tüketimi ve Analjeziklerle İlişkili Yan Etkiler Üzerine Etkisi*  
Bilge KARA, Ferdi BASKURT, Serap ACAR, Didem KARADIBAK, Lugen CIFTCI, Serhat ERBAYRAKTAR, Ali Necati GOKMEN
- 
- 625** **Comparison of two Different Formulations of Botulinum Toxin a for the Treatment of Blepharospasm and Hemifacial Spasm**  
*Blefarospazm ve Hemifasiyal Spazmda Botulinismus Toksininin İki Farklı Formülünün Karşılaştırılması*  
Chuan-jie WU, Ji-hong SHEN, Yuan CHEN, Ya-jun LIAN
- 
- 630** **Topical Application of Tacrolimus Prevents Epidural Fibrosis in a Rat Postlaminectomy Model: Histopathological and Ultrastructural Analysis**  
*Takrolimusun Siçan Modelinde Laminektomi Sonrası Oluşan Epidural Fibrosizi Önlemedeki Etkinliği: Histopatolojik ve Ultrastrüktürel Değerlendirme*  
Ozgur ISMAILOGLU, Baki ALBAYRAK, Ismail GULSEN, Gamze TANRIOVER, Necdet DEMIR
- 
- 
- 634** **Neurosurgery in the Sitting Position: Retrospective Analysis of 692 Adult and Pediatric Cases**  
*Oturur Pozisyonda Nöroşirürji: 692 Erişkin ve Çocuk Olgunun Retrospektif Analizi*  
Ozlem KORKMAZ DILMEN, Eren Fatma AKCIL, Ercan TURECI, Yusuf TUNALI, Mois BAHAR, Taner TANRIVERDI, Sabri AYDIN, Ercument YENTUR

## CASE REPORT

- 641** **Treatment of Primary Aspergilloma of the Central Nervous System in a Diabetic Immunocompetent Patient with Surgical Resection and Voriconazole: A Case Report and Review of the Literature**  
*Normal Bağışıklık Sistemine Sahip, Diyabetik Bir Hastada Santral Sinir Sisteminin Primer Aspergilloma'nın Cerrahi Olarak Çıkarılması ve Voriconazole ile Tedavisi: Olgu Sunumu ve Literatürün Gözden Geçirilmesi*  
Robin KOSHY, Prashant MALHOTRA
- 
- 
- 645** **Congenital Cavernous Hemangioma of the Skull**  
*Kafatasının Konjenital Kavernöz Hemanjiomu*  
Engin YUCEL, Hampar AKKAYA, Doga GÜRKANLAR, Tarkan ERGUN
- 
- 
- 648** **Extreme Elongation of the Transverse Processes of the Fifth Lumbar Vertebra: An Unusual Variant**  
*Beşinci Lomber Omur Transvers Çıktıntısının Aşırı Uzaması: Alışılmadık Bir Varyasyon*  
Ki Seong EOM, Tae Young KIM, Seong Keun MOON
- 
- 
- 651** **Lhermitte - Duclos Disease with Syring: Case Report and Literature Review**  
*Sirinks ile Birlikte Lhermitte - Duclos Hastalığı: Olgu Sunumu ve Literatürün Gözden Geçirilmesi*  
Khursheed NAYIL, Maqbool WANI, Altaf RAMZAN, Feroze SHAHEEN, Iqbal LONE, Abrar WANI
- 

655



### The Association of Chiari Type III Malformation and Klippel-Feil Syndrome with Mirror Movement: A Case Report

*Mirror Movement ile Birlikte Olan Klippel-Feil Sendromunun Chiari Tip III Malformasyonu ile Birlikteliği*

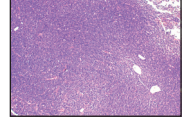
Fatih Serhat EROL, Necati UCLER, Huseyin YAKAR

659

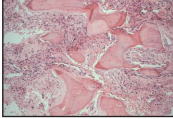
### Primary Sacral Lymphoma: A Case Report and Review of the Literature

*Primer Sakral Lenfoma: Olgu Sunumu ve Literatürün Gözden Geçirilmesi*

Khursheed NAYIL, Rumana MAKHDOOMI, Altaf RAMZAN, Rayees MALIK, Shafiq ALAM, Abrar WANI, Sarbjit CHHIBER



663



### Intraosseous Meningioma Mimicking Osteosarcoma in an Adolescent: A Case Report

*Bir Adolesanda Osterosarkomu Taklit Eden İntraosseoz Menenjiom: Olgu Sunumu*

Mustafa Arif ERAS, Rabia TARI, Gulsah OZTURK , Buge OZ, Turgay BILGE

666

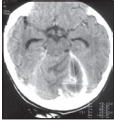
### Pneumorrhachis Associated with Bronchial Asthma, Subcutaneous Emphysema and Pneumomediastinum

*Bronşiyal Astım, Subkutan Amfizem ve Pnömomediastinum ile Birlikte Pnömoraji*

Alper KARAOGLAN, Mehmet Alpay CAL, Alpay ORKI, Bekir Muhsin ARPAOZU, Ahmet COLAK



669



### Subtentorial Subdural Empyema: Report of Two Cases and Review of the Literatures

*Subtentoriyal Subdural Ampiyem: Farklı İki Olgu Sunumu ve Literatür Taraması*

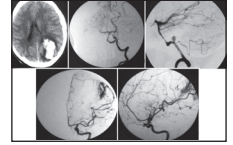
Mahmoud M. TAHA, Sami HASSANAİN

674

### Recurrent Cerebral Arteriovenous Malformation with a Posterior Inferior Cerebellar Artery Aneurysm

*Posterior İnferior Serebeller Arter Anevrizması ile Birlikte Nüks Arteriovenöz Malformasyon Olgusu*

Ahmet Murat MUSLUMAN, Halit CAVUSOGLU, Adem YILMAZ, Yunus AYDIN



680



### The Importance of Early Diagnosis and Appropriate Treatment in Grisel's Syndrome: Report of Two Cases

*Grisel Sendromunda Erken Teşhis ve Uygun Tedavinin Önemi: İki Olgu Sunumu*

Ahmet DAGTEKIN, Engin KARA, Yusuf VAYISOGLU, Aslihan KOSEOGLU, Emel AVCI, Derya TALAS, Celal BAGDATOGLU

685

### Percutaneous CT-Guided Treatment of Recurrent Spinal Cyst Hydatid

*Nüks Spinal Hidatik Kistin BT Eşliğinde Perkütanöz Yolla Tedavisi*

Ozgur OZDEMIR, Tarkan CALISANELLER, Erkan YILDIRIM, Nur ALTINORS

