

Journal of Neuroscience and Behavioral Health

Volume 6 Number 1 April, 2014

ISSN 2141-2286



*Academic
Journals*

ABOUT JNBH

The **Journal of Neuroscience and Behavioral Health (JNBH)** is published monthly (one volume per year) by Academic Journals.

Journal of Neuroscience and Behavioral Health (JNBH) is an open access journal that provides rapid publication (monthly) of articles in all areas of the subject such as metagenics, evolutionary anthropology, fragile X syndrome, immunotherapy etc.

The Journal welcomes the submission of manuscripts that meet the general criteria of significance and scientific excellence. Papers will be published shortly after acceptance. All articles published in JNBH are peer-reviewed.

Submission of Manuscript

Submit manuscripts as e-mail attachment to the Editorial Office at: jnbh@academicjournals.org. A manuscript number will be mailed to the corresponding author shortly after submission.

The Journal of Medical Genetics and Genomics will only accept manuscripts submitted as e-mail attachments.

Please read the **Instructions for Authors** before submitting your manuscript. The manuscript files should be given the last name of the first author.

Editors

Prof. Viroj Wiwanitkit, M.D.

*Wiwanitkit House, Bangkhae,
Bangkok Thailand 10160.
Visiting Prof. Tropical Medicine,
Hainan Medical College,
Hainan China.*

Prof. Kenneth Blum

*Institution Department of Psychiatry,
University of Florida college of Medicine,
Gainesville, Fl
USA*

Dr. Abd El-Latif Hesham

*Genetics Department, Faculty of Agriculture,
Assiut University
Egypt*

Prof. Viroj Wiwanitkit

*Wiwanitkit house, bangkhae, Bangkok Thailand
10160
Thailand*

Dr. Pritha Ghosh

*Indian Institute of Chemical Biology
India*

Dr. Israel Fernandez-Cadenas

*Neurovascular Research Laboratory,
Institut de Recerca, Vall d'Hebron Hospital,
Barcelona.
Spain*

Dr. Wanis H Ibrahim

*Qualifications: FRCP (Edin), FRCP (Glasg), FCCP
Hamad General Hospital, Weill-Cornell Medical
College
Qatar*

Prof. Debnath Bhattacharyya

*Hannam University,
Daejeon,
Korea*

Dr. Khaled Abu-Amero

*College of Medicine, King Saud University,
Saudi Arabia*

Dr. Faiyaz Ahmed

*Department of Studies in Food Science and Nutrition
University of Mysore,
India*

Editorial Board

Prof. Rama Devi Mittal

*Sanjay gandhi PGI Lucknow
India
Prof. Kai Li
Suzhou University uzhou,
Jiangsu,
China*

Dr. Aliza Amiel

*Faculty of life Science Bar-Ilan Ramat-Gan,
Israel*

Dr Olufemi Oloyede

*Department of Obstetrics and Gynaecology,
Olabisi Onabanjo University Teaching Hospital
Sagamu,
Ogun State,
Nigeria*

Dr. Vishwanathan Huchtagowder

*Washington University school of medicine
USA*

Dr. Abdelilah S. Gounni

*Faculty of Medicine,
University of Manitoba
Canada*

Prof. Ruixing Yin

*Department of Cardiology, Institute of Cardiovascular
Diseases,
Guangxi Medical University
22 Shuangyong Road,
Nanning 530021,
Guangxi,
China*

Dr. Guangming Han

*Georgia State University
USA*

Dr. C. Emmanuel

*Global Hospitals Group
India*

Dr. Alessio Squassina

*Department of Neuroscience,
University of Cagliari
Italy*

Dr. Jiexiong Feng

*Department of Pediatric Surgery, Tongji Hospital,
Huazhong University of Science and Technology
China*

Dr. Magdy Abd ElRehim Sayed Aly

*Faculty of Science,
Beni Suef University
Egypt*

Dr. Hamid Jafarzadeh

*Mashhad Faculty of Dentistry and Dental Research Center
Iran*

Dr. Youse Rasmi

*Department of Biochemistry,
Faculty of Medicine,
Urmia University of Medical Sciences,
Urmia,
Iran*

Dr Keya Chaudhuri

*Indian Institute of Chemical Biology
India*

Ivan Y. Torshin

*Computational Center of The Russian Academy of Sciences
Russia*

Dr. Wagdy K. B. Khalil

*National Research Centre (NRC)
Egypt*

Vishnu Priya

*Saveetha University
India*

Dr. A.Chandrasekar

*Anthropological Survey of India,
Southern Regional Bogadi 2nd stage,
Mysore-570 026
India*

Dr Raghavendra Babu YP

*Kasturba Medical College, Mangalore
India*

Dr. Shayesteh Jahanfar

*Royal College of Medicine, Perak;
University of Kuala Lumpur
Malaysia*

Prof. Wei Wang

*Capital Medical University, Beijing, China;
Chinese Academy of Sciences, Beijing, China
China*

Instructions for Author

Electronic submission of manuscripts is strongly encouraged, provided that the text, tables, and figures are included in a single Microsoft Word file (preferably in Arial font).

The **cover letter** should include the corresponding author's full address and telephone/fax numbers and should be in an e-mail message sent to the Editor, with the file, whose name should begin with the first author's surname, as an attachment.

Article Types

Three types of manuscripts may be submitted:

Regular articles: These should describe new and carefully confirmed findings, and experimental procedures should be given in sufficient detail for others to verify the work. The length of a full paper should be the minimum required to describe and interpret the work clearly.

Short Communications: A Short Communication is suitable for recording the results of complete small investigations or giving details of new models or hypotheses, innovative methods, techniques or apparatus. The style of main sections need not conform to that of full-length papers. Short communications are 2 to 4 printed pages (about 6 to 12 manuscript pages) in length.

Reviews: Submissions of reviews and perspectives covering topics of current interest are welcome and encouraged. Reviews should be concise and no longer than 4-6 printed pages (about 12 to 18 manuscript pages). Reviews are also peer-reviewed.

Review Process

All manuscripts are reviewed by an editor and members of the Editorial Board or qualified outside reviewers. Authors cannot nominate reviewers. Only reviewers randomly selected from our database with specialization in the subject area will be contacted to evaluate the manuscripts. The process will be blind review.

Decisions will be made as rapidly as possible, and the journal strives to return reviewers' comments to authors as fast as possible. The editorial board will re-review manuscripts that are accepted pending revision. It is the goal of the JMGG to publish manuscripts within weeks after submission.

Regular articles

All portions of the manuscript must be typed double-spaced and all pages numbered starting from the title page.

The Title should be a brief phrase describing the contents of the paper. The Title Page should include the authors' full names and affiliations, the name of the corresponding author along with phone, fax and E-mail information. Present addresses of authors should appear as a footnote.

The Abstract should be informative and completely self-explanatory, briefly present the topic, state the scope of the experiments, indicate significant data, and point out major findings and conclusions. The Abstract should be 100 to 200 words in length. Complete sentences, active verbs, and the third person should be used, and the abstract should be written in the past tense. Standard nomenclature should be used and abbreviations should be avoided. No literature should be cited.

Following the abstract, about 3 to 10 key words that will provide indexing references should be listed.

A list of non-standard **Abbreviations** should be added. In general, non-standard abbreviations should be used only when the full term is very long and used often. Each abbreviation should be spelled out and introduced in parentheses the first time it is used in the text. Only recommended SI units should be used. Authors should use the solidus presentation (mg/ml). Standard abbreviations (such as ATP and DNA) need not be defined.

The Introduction should provide a clear statement of the problem, the relevant literature on the subject, and the proposed approach or solution. It should be understandable to colleagues from a broad range of scientific disciplines.

Materials and methods should be complete enough to allow experiments to be reproduced. However, only truly new procedures should be described in detail; previously published procedures should be cited, and important modifications of published procedures should be mentioned briefly. Capitalize trade names and include the manufacturer's name and address. Subheadings should be used. Methods in general use need not be described in detail.

Results should be presented with clarity and precision.

The results should be written in the past tense when describing findings in the authors' experiments. Previously published findings should be written in the present tense. Results should be explained, but largely without referring to the literature. Discussion, speculation and detailed interpretation of data should not be included in the Results but should be put into the Discussion section.

The Discussion should interpret the findings in view of the results obtained in this and in past studies on this topic. State the conclusions in a few sentences at the end of the paper. The Results and Discussion sections can include subheadings, and when appropriate, both sections can be combined.

The Acknowledgments of people, grants, funds, etc should be brief.

Tables should be kept to a minimum and be designed to be as simple as possible. Tables are to be typed double-spaced throughout, including headings and footnotes. Each table should be on a separate page, numbered consecutively in Arabic numerals and supplied with a heading and a legend. Tables should be self-explanatory without reference to the text. The details of the methods used in the experiments should preferably be described in the legend instead of in the text. The same data should not be presented in both table and graph form or repeated in the text.

Figure legends should be typed in numerical order on a separate sheet. Graphics should be prepared using applications capable of generating high resolution GIF, TIFF, JPEG or Powerpoint before pasting in the Microsoft Word manuscript file. Tables should be prepared in Microsoft Word. Use Arabic numerals to designate figures and upper case letters for their parts (Figure 1). Begin each legend with a title and include sufficient description so that the figure is understandable without reading the text of the manuscript. Information given in legends should not be repeated in the text.

References: In the text, a reference identified by means of an author's name should be followed by the date of the reference in parentheses. When there are more than two authors, only the first author's name should be mentioned, followed by 'et al'. In the event that an author cited has had two or more works published during the same year, the reference, both in the text and in the reference list, should be identified by a lower case letter like 'a' and 'b' after the date to distinguish the works.

Examples:

Abayomi (2000), Agindotan et al. (2003), (Kelebeni, 1983), (Usman and Smith, 1992), (Chege, 1998;

1987a,b; Tijani, 1993,1995), (Kumasi et al., 2001)

References should be listed at the end of the paper in alphabetical order. Articles in preparation or articles submitted for publication, unpublished observations, personal communications, etc. should not be included in the reference list but should only be mentioned in the article text (e.g., A. Kingori, University of Nairobi, Kenya, personal communication). Journal names are abbreviated according to Chemical Abstracts. Authors are fully responsible for the accuracy of the references.

Examples:

Chikere CB, Omoni VT and Chikere BO (2008). Distribution of potential nosocomial pathogens in a hospital environment. *Afr. J. Biotechnol.* 7: 3535-3539.

Moran GJ, Amii RN, Abrahamian FM, Talan DA (2005). Methicillinresistant *Staphylococcus aureus* in community-acquired skin infections. *Emerg. Infect. Dis.* 11: 928-930.

Pitout JDD, Church DL, Gregson DB, Chow BL, McCracken M, Mulvey M, Laupland KB (2007). Molecular epidemiology of CTXM-producing *Escherichia coli* in the Calgary Health Region: emergence of CTX-M-15-producing isolates. *Antimicrob. Agents Chemother.* 51: 1281-1286.

Pelczar JR, Harley JP, Klein DA (1993). *Microbiology: Concepts and Applications*. McGraw-Hill Inc., New York, pp. 591-603.

Short Communications

Short Communications are limited to a maximum of two figures and one table. They should present a complete study that is more limited in scope than is found in full-length papers. The items of manuscript preparation listed above apply to Short Communications with the following differences: (1) Abstracts are limited to 100 words; (2) instead of a separate Materials and Methods section, experimental procedures may be incorporated into Figure Legends and Table footnotes; (3) Results and Discussion should be combined into a single section.

Proofs and Reprints: Electronic proofs will be sent (e-mail attachment) to the corresponding author as a PDF file. Page proofs are considered to be the final version of the manuscript. With the exception of typographical or minor clerical errors, no changes will be made in the manuscript at the proof stage.

Fees and Charges: Authors are required to pay a \$550 handling fee. Publication of an article in the Journal of Neuroscience and Behavioral Health is not contingent upon the author's ability to pay the charges. Neither is acceptance to pay the handling fee a guarantee that the paper will be accepted for publication. Authors may still request (in advance) that the editorial office waive some of the handling fee under special circumstances.

Copyright: © 2014, Academic Journals.

All rights Reserved. In accessing this journal, you agree that you will access the contents for your own personal use but not for any commercial use. Any use and or copies of this Journal in whole or in part must include the customary bibliographic citation, including author attribution, date and article title.

Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, or thesis) that it is not under consideration for publication elsewhere; that if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher.

Disclaimer of Warranties

In no event shall Academic Journals be liable for any special, incidental, indirect, or consequential damages of any kind arising out of or in connection with the use of the articles or other material derived from the JNBH, whether or not advised of the possibility of damage, and on any theory of liability.

This publication is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement. Descriptions of, or references to, products or publications does not imply endorsement of that product or publication. While every effort is made by Academic Journals to see that no inaccurate or misleading data, opinion or statements appear in this publication, they wish to make it clear that the data and opinions appearing in the articles and advertisements herein are the responsibility of the contributor or advertiser concerned. Academic Journals makes no warranty of any kind, either express or implied, regarding the quality, accuracy, availability, or validity of the data or information in this publication or of any other publication to which it may be linked.

Journal of Neuroscience and Behavioral Health

Table of Content: Volume 6 Number 1 April 2014

ARTICLES

Case Report

A case of intrapelvic sciatic nerve schwannoma presenting as piriformis syndrome 1
Koshi Ninomiya, Koichi Iwatsuki, Yu-ichiro Ohnishi, Takashi Moriwaki and Toshiki Yoshimine

Case Report

A case of intrapelvic sciatic nerve schwannoma presenting as piriformis syndrome

Koshi Ninomiya*, Koichi Iwatsuki, Yu-ichiro Ohnishi, Takashi Moriwaki and Toshiki Yoshimine

Department of Neurosurgery, Osaka University Graduate School of Medicine, Suita City, Osaka, Japan.

Received 8 March, 2014; Accepted 1 April, 2014

A 36-year-old man presented with lower back and right lower extremity pain for 10 years and right inguinal pain for 1 year. Magnetic resonance imaging showed a right sciatic nerve mass at the right ventral piriformis, causing sciatica and piriformis syndrome. The tumor was totally resected by a posterior approach. The postoperative histopathological diagnosis was schwannoma (World Health Organization grade 1). Immediately after the operation, his preoperative symptoms disappeared completely.

Key words: Intrapelvic sciatic nerve schwannoma, sciatica, piriformis syndrome.

INTRODUCTION

Schwannoma is a benign encapsulated slow-growing tumor of schwann cells and is very rare in the sciatic nerve (1%) (Omezzine et al., 2009). Intrapelvic schwannomas are extremely rare. They produce symptoms of sciatica, piriformis syndrome or plantar neuropathy (Tan et al., 2010). We describe a sciatic nerve schwannoma under the piriformis that caused intractable sciatica and mimicked piriformis syndrome.

CASE REPORT

A 36-year-old man presented with a 10-year history of lumbago and right calf and plantar fascia pain. He was diagnosed with an intrapelvic tumor. Conservative treatment had been done for 10 years. He was referred to our hospital because the pain had worsened and spread to his right inguinal region one year before.

Striking his right buttock induced right lower extremity

pain. Long periods of standing/sitting and internal and external rotation of his right hip joint increased the pain (Freiberg sign and positive Pace sign). He had slightly dull light touch and temperature senses in his right plantar fascia. Urination time was increased. There was no motor weakness or abnormal deep tendon reflexes in his lower extremities. Magnetic resonance imaging (MRI) showed a 30 × 38 × 32 mm-size mass along the right sciatic nerve at the right ventral piriformis with low intensity on T1-weighted images, high intensity on T2-weighted images and heterogeneous enhancement with gadolinium (Figure 1).

Under general anesthesia, the patient was placed in a prone position. Nerve integrity was surgically monitored with needle electrodes (Medtronic Inc., Tokyo, Japan) in the right anterior tibialis, the right gastrocnemius and the anal sphincter. A curved skin incision was made on his right buttock. After gluteus maximus cleavage, a small incision was made in the piriformis, revealing the

*Corresponding author. E-mail: k-ninomiya@nsurg.med.osaka-u.ac.jp. Tel: +81-6-6879-3652. Fax: +81-6-6879-3659..

Author(s) agree that this article remain permanently open access under the terms of the [Creative Commons Attribution License 4.0 International License](http://creativecommons.org/licenses/by/4.0/)

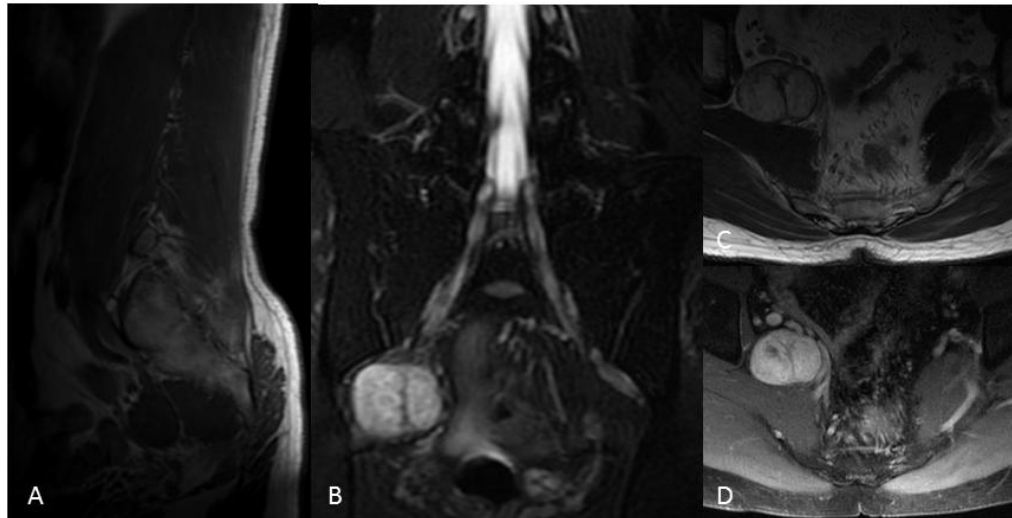


Figure 1. Preoperative magnetic resonance imaging of the lumbar spine showing a 30 × 38 × 32 mm-sized intraextrapelvic mass under the right piriformis muscle (A-D). (A) Sagittal T1-weighted imaging; (B) Coronal T2-weighted imaging; (C) Axial T2-weighted imaging; (D) Axial T1-weighted and contrast-enhanced fat-saturation imaging.

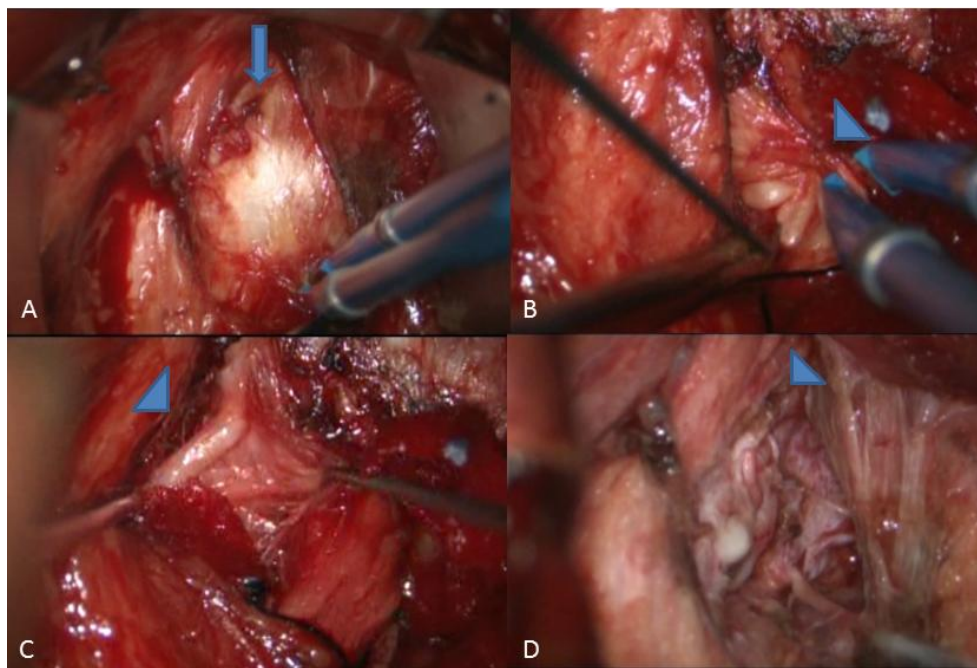


Figure 2. Intraoperative microscopic imaging. (A) The tumor (arrow) under the piriformis muscle; (B-C) The nerve fascicle with perineurium (arrowhead) was split from the tumor; (D) Operative view after tumor removal.

small incision was made in the piriformis, revealing the superficial part of the tumor. Its rostral and caudal sides were observed and we confirmed that it arose from the sciatic nerve. The tumor was encapsulated with nerve fascicle, showing that active electromyographic responses

responses of the right gastrocnemius were split from the tumor nucleus and preserved (Figure 2). After checking negative electromyographic responses, the rostral and caudal sides of the nerve were cauterized and cut, and almost the entire tumor was resected.

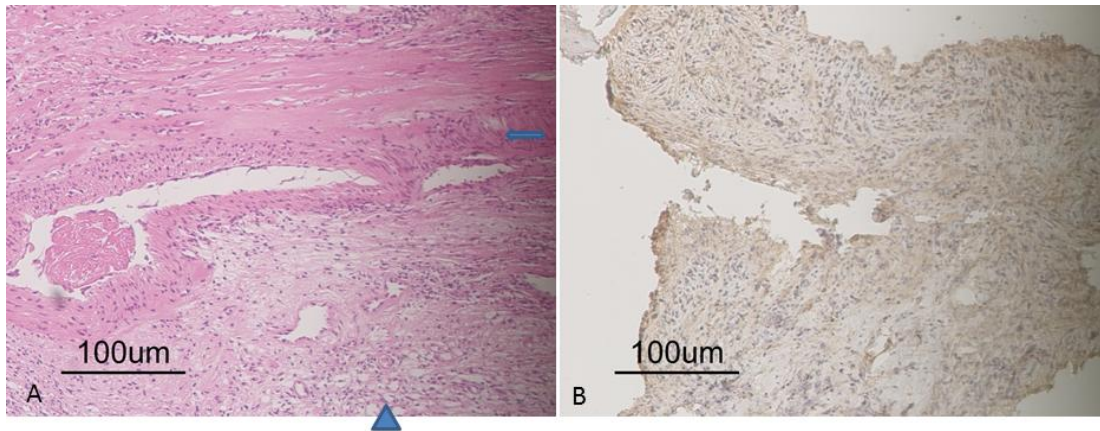


Figure 3. A pathological examination of the tumor demonstrated schwannoma, including S100-positive tissue with Antoni A (arrow) and B portion (arrowhead). (A) Hematoxylin and eosin staining and (B) S100 immunohistochemical staining.

Immediately after the operation, all pain and urination difficulty disappeared. There was no motor weakness or other neurological deficits other than numbness of the right buttock and right plantar fascia. The histopathological diagnosis was schwannoma (World Health Organization grade 1) (Figure 3). Postoperative lumbar MRI showed total tumor removal and no recurrence 4 months later.

DISCUSSION

Sciatic nerve schwannoma is rare, representing only 1% of all schwannomas (Omezzine et al., 2009). It is usually asymptomatic, but tumor mass effects sometimes cause intractable sciatica. Piriformis syndrome accounts for approximately 6 to 8% of sciatica cases (Natsis et al., 2013). This is thought to be caused by sciatic nerve entrapment on the sciatic notch. Generally, it is caused by intrinsic factors, such as fascial pain, anatomical abnormalities, muscular hypertrophy and pyogenic myositis and extrinsic factors, such as hip or pelvic trauma. However, piriformis syndrome can be caused by sciatic nerve perineural cyst (Hwang et al., 2010) or schwannoma (Haspolat et al., 2013), as in this case.

In this case, the slowly growing tumor probably compressed the sciatic and pudendal nerves, thus inducing intractable sciatica, inguinal pain and urination difficulty. Sciatic nerve schwannomas can be purely intrapelvic (Kelso et al., 1993), purely extrapelvic or intraextrapelvic dumbbell-shaped masses (Spinner et al., 2006). Our case was mainly intrapelvic and partially extrapelvic, compressing the sciatic nerve and piriformis, thus causing piriformis syndrome. We chose a posterior approach for resection of this mainly intrapelvic tumor. Several reports have recommended initial tumor capsule incision along the sciatic nerve for en-bloc tumor removal (Russell et al., 2007; Tan et al., 2010). A stimulator probe

first confirmed the motor nerve fascicle with perineurium. Splitting it from the caudal to rostral sides of the tumor, nearly total tumor removal was performed. Only slight numbness of the right buttock and plantar fascia was found postoperatively. We suggest that this operation with intraoperative monitoring and microscopic techniques is equivalent to enucleation. In addition, we should remember that intrapelvic sciatic nerve schwannomas may cause sciatica and piriformis syndrome.

Conclusion

We presented a case of intrapelvic sciatic schwannoma which caused sciatica and piriformis syndrome. After total resection of it, his preoperative symptoms disappeared with no major neurological deficit.

Conflict of Interests

The author(s) have not declared any conflict of interests.

REFERENCES

- Haspolat Y, Ozkan FU, Turkmen I, Kemah B, Turhan Y, Sarar S, Ozkan K (2013). Sciatica due to Schwannoma at the Sciatic Notch. *Case Rep. Orthop.* 510901.
- Hwang DS, Kang C, Lee JB, Cha SM, Yeon KW (2010). Arthroscopic treatment of piriformis syndrome by perineural cyst on the sciatic nerve: a case report. *Knee Surg. Sports Traumatol. Arthrosc.* 18:681-4.
- Natsis K, Totlis T, Konstantinidis GA, Paraskevas G, Piagkou M, Koebeke J (2013). Anatomical variations between the sciatic nerve and the piriformis muscle: a contribution to surgical anatomy in piriformis syndrome. *Surg. Radiologic Anat.* 36(3):273-80.
- Omezzine SJ, Zaara B, Ben Ali M, Abid F, Sassi N, Hamza HA (2009). A rare cause of non discal sciatica: Schwannoma of the sciatic nerve. *Orthop. Traumatol. Surg. Res.* 95:543-6.
- Russell SM. (2007) Preserve the nerve: microsurgical resection of peripheral nerve sheath tumors. *Neurosurgery* 61:113-7.

- Spinner RJ, Endo T, Amrami KK, Dozois EJ, Babovic-Vuksanovic D, Sim FH (2006). Resection of benign sciatic notch dumbbell-shaped tumors. *J. Neurosurg.* 105:873-80.
- Tan LA, Bradbury J, Bonnin J, Horn EM (2010). Minimally invasive resection of an extrapelvic sciatic schwannoma. *J. Clin. Neurosci.* 17:1314-6.

Journal of Neuroscience and Behavioral Health

Related Journals Published by Academic Journals

- *Journal of Diabetes and Endocrinology*
- *Journal of Medical Genetics and Genomics*
- *Journal of Public Health and Epidemiology*
- *Medical Case Studies*
- *Medical Practice and Reviews*
- *Journal of Infectious Diseases and Immunity*

academicJournals