

World Journal of *Clinical Cases*

World J Clin Cases 2018 December 26; 6(16): 1073-1222



REVIEW

- 1073 Biliary endoscopic sphincterotomy: Techniques and complications
Köksal AS, Eminler AT, Parlak E

MINIREVIEWS

- 1087 Radiation exposure during image-guided endoscopic procedures: The next quality indicator for endoscopic retrograde cholangiopancreatography
Hayashi S, Takenaka M, Hosono M, Nishida T

ORIGINAL ARTICLE

Case Control Study

- 1094 Feasibility of laparoscopic total gastrectomy in overweight patients: Implications of less impact of overweight on laparoscopic versus open approach
Nakagawa M, Kojima K, Inokuchi M, Kobayashi K, Tanioka T, Okuno K, Gokita K

Retrospective Study

- 1101 Complications of newborn enterostomies
Wolf L, Gfroerer S, Fiegel H, Rolle U
- 1111 Background factors influencing postgastrectomy syndromes after various types of gastrectomy
Kinami S, Takahashi M, Urushihara T, Ikeda M, Yoshida M, Uenosono Y, Oshio A, Suzukamo Y, Terashima M, Kodera Y, Nakada K
- 1121 Safety of fecal microbiota transplantation in Chinese children: A single-center retrospective study
Zhang XY, Wang YZ, Li XL, Hu H, Liu HF, Li D, Xiao YM, Zhang T

Observational Study

- 1128 Mandatory meningococcal vaccine, and other recommended immunisations: Uptake, barriers, and facilitators among health care workers and trainees at Hajj
Badahdah AM, Alfelali M, Alqahtani AS, Alsharif S, Barasheed O, Rashid H; the Hajj Research Team

Randomized Clinical Trial

- 1136 Effect of clonidine on the cutaneous silent period during spinal anesthesia
Graf Zupcic S, Zupcic M, Duzel V, Šimurina T, Milošević M, Basic S, Vuletic V, Kapural L

- 1146 Safety of applying midazolam-ketamine-propofol sedation combination under the supervision of endoscopy nurse with patient-controlled analgesia pump in colonoscopy

Kayaalti S, Kayaalti Ö

CASE REPORT

- 1155 Renal aspergillosis in a liver transplant patient: A case report and review of literature

Smolovic B, Vukcevic B, Muhovic D, Ratkovic M

- 1160 Ureteral double J stent displaced into vena cava and management with laparoscopy: A case report and review of the literature

Mao XW, Xu G, Xiao JQ, Wu HF

- 1164 Combined silicosis and mixed dust pneumoconiosis with rapid progression: A case report and literature review

Yoon HY, Kim Y, Park HS, Kang CW, Ryu YJ

- 1169 Spontaneous cerebral abscess due to *Bacillus subtilis* in an immunocompetent male patient: A case report and review of literature

Tsonis I, Karamani L, Xaplanteri P, Kolonitsiou F, Zampakis P, Gatzounis G, Marangos M, Assimakopoulos SF

- 1175 Post-appendectomy pelvic abscess with extended-spectrum beta-lactamase producing *Escherichia coli*: A case report and review of literature

Tse A, Cheluvappa R, Selvendran S

- 1182 Gastric duplication cyst communicating to accessory pancreatic lobe: A case report and review of the literature

Rousek M, Kachlik D, Nikov A, Pintova J, Ryska M

- 1189 Oxygen insufflation *via* working channel in a fiberscope is a useful method: A case report and review of literature

Lee D, Baik J, Yun G, Kim E

- 1194 Primary sebaceous carcinoma of lacrimal gland: A case report and review of literature

Park H, Choi SG

- 1199** Uncommon cause of voiding dysfunction in a female patient-vaginal abscess: A case report
Yeh CC, Yang SSD, Huang SC, Wang YC
- 1202** Schwannoma originating from the recurrent laryngeal nerve in a thyroid cancer patient: A case report and review of the literature
Xu XQ, Hong T, Zheng CJ
- 1206** Posaconazole-associated severe hyperbilirubinemia in acute myeloid leukemia following chemotherapy: A case report
Song ZW, Pan YC, Huang ZC, Liu WX, Zhao RS, Jing HM, Dong F
- 1210** Chondromyxoid fibroma of the temporal bone: A case report and review of the literature
Zheng YM, Wang HX, Dong C
- 1217** Duodenal variceal bleeding secondary to idiopathic portal hypertension treated with transjugular intra-hepatic portosystemic shunt plus embolization: A case report
Xie BS, Zhong JW, Wang AJ, Zhang ZD, Zhu X, Guo GH

ABOUT COVER

Editorial Board Member of *World Journal of Clinical Cases*, Consolato M Sergi, FRCP (C), MD, PhD, Professor, Department of Lab. Medicine and Pathology, University of Alberta, Edmonton T6G 2B7, AB, Canada

AIM AND SCOPE

World Journal of Clinical Cases (*World J Clin Cases*, *WJCC*, online ISSN 2307-8960, DOI: 10.12998) is a peer-reviewed open access academic journal that aims to guide clinical practice and improve diagnostic and therapeutic skills of clinicians.

The primary task of *WJCC* is to rapidly publish high-quality Autobiography, Case Report, Clinical Case Conference (Clinicopathological Conference), Clinical Management, Diagnostic Advances, Editorial, Field of Vision, Frontier, Medical Ethics, Original Articles, Clinical Practice, Meta-Analysis, Minireviews, Review, Therapeutics Advances, and Topic Highlight, in the fields of allergy, anesthesiology, cardiac medicine, clinical genetics, clinical neurology, critical care, dentistry, dermatology, emergency medicine, endocrinology, family medicine, gastroenterology and hepatology, geriatrics and gerontology, hematology, immunology, infectious diseases, internal medicine, obstetrics and gynecology, oncology, ophthalmology, orthopedics, otolaryngology, pathology, pediatrics, peripheral vascular disease, psychiatry, radiology, rehabilitation, respiratory medicine, rheumatology, surgery, toxicology, transplantation, and urology and nephrology.

INDEXING/ABSTRACTING

World Journal of Clinical Cases (*WJCC*) is now indexed in PubMed, PubMed Central, Science Citation Index Expanded (also known as SciSearch®), and Journal Citation Reports/Science Edition. The 2018 Edition of Journal Citation Reports cites the 2017 impact factor for *WJCC* as 1.931 (5-year impact factor: N/A), ranking *WJCC* as 60 among 154 journals in Medicine, General and Internal (quartile in category Q2).

EDITORS FOR THIS ISSUE

Responsible Assistant Editor: *Xiang Li*
Responsible Electronic Editor: *Yun-XiaoJian Wu*
Proofing Editor-in-Chief: *Lian-Sheng Ma*

Responsible Science Editor: *Fang-Fang Ji*
Proofing Editorial Office Director: *Jin-Lei Wang*

NAME OF JOURNAL
World Journal of Clinical Cases

ISSN
 ISSN 2307-8960 (online)

LAUNCH DATE
 April 16, 2013

FREQUENCY
 Semimonthly

EDITORS-IN-CHIEF
Sandro Vento, MD, Department of Internal Medicine, University of Botswana, Private Bag 00713, Gaborone, Botswana

EDITORIAL BOARD MEMBERS
 All editorial board members resources online at <https://www.wjgnet.com/2307-8960/editorialboard.htm>

EDITORIAL OFFICE
 Jin-Lei Wang, Director

World Journal of Clinical Cases
 Baishideng Publishing Group Inc
 7901 Stoneridge Drive, Suite 501, Pleasanton, CA 94588, USA
 Telephone: +1-925-2238242
 Fax: +1-925-2238243
 E-mail: editorialoffice@wjgnet.com
 Help Desk: <https://www.f6publishing.com/helpdesk>
<https://www.wjgnet.com>

PUBLISHER
 Baishideng Publishing Group Inc
 7901 Stoneridge Drive, Suite 501, Pleasanton, CA 94588, USA
 Telephone: +1-925-2238242
 Fax: +1-925-2238243
 E-mail: bpgoffice@wjgnet.com
 Help Desk: <https://www.f6publishing.com/helpdesk>
<https://www.wjgnet.com>

PUBLICATION DATE
 December 26, 2018

COPYRIGHT
 © 2018 Baishideng Publishing Group Inc. Articles published by this Open Access journal are distributed under the terms of the Creative Commons Attribution Non-commercial License, which permits use, distribution, and reproduction in any medium, provided the original work is properly cited, the use is non commercial and is otherwise in compliance with the license.

SPECIAL STATEMENT
 All articles published in journals owned by the Baishideng Publishing Group (BPG) represent the views and opinions of their authors, and not the views, opinions or policies of the BPG, except where otherwise explicitly indicated.

INSTRUCTIONS TO AUTHORS
<https://www.wjgnet.com/bpg/gerinfo/204>

ONLINE SUBMISSION
<https://www.f6publishing.com>

Schwannoma originating from the recurrent laryngeal nerve in a thyroid cancer patient: A case report and review of the literature

Xie-Qun Xu, Tao Hong, Chao-Ji Zheng

Xie-Qun Xu, Tao Hong, Chao-Ji Zheng, Department of General Surgery, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100730, China

ORCID number: Xie-Qun Xu (0000-0003-0347-5258); Tao Hong (0000-0002-5445-2315); Chao-Ji Zheng (0000-0003-1814-1699).

Author contributions: Xu XQ gathered the data, prepared the initial manuscript draft, and approved the final draft; all other authors contributed to patient care, offered expert advice on manuscript preparation, and approved the final draft; Hong T was the principal investigator and approved the final draft.

Informed consent statement: The study participant provided informed written consent prior to study enrollment.

Conflict of interest statement: The authors have no conflict of interest to declare.

CARE Checklist (2016) statement: The authors have read the CARE Checklist (2016), and the manuscript was prepared and revised according to the CARE Checklist (2016).

Open-Access: This article is an open-access article which was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>

Manuscript source: Unsolicited manuscript

Corresponding author to: Tao Hong, MD, Doctor, Department of General Surgery, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, 1 Shuaifuyuan, Dongcheng District, Beijing 100730, China. xiequnxu@gmail.com
Telephone: +86-10-69152610

Fax: +86-10-69152610

Received: September 20, 2018

Peer-review started: September 21, 2018

First decision: October 25, 2018

Revised: November 5, 2018

Accepted: November 7, 2018

Article in press: November 7, 2018

Published online: December 26, 2018

Abstract

BACKGROUND

Schwannoma rarely originates from the recurrent laryngeal nerve, and there are few reports on schwannoma originating from the recurrent nerve in the mediastinum. Herein, we present an extremely rare case of schwannoma originating from the recurrent laryngeal nerve in the neck.

CASE SUMMARY

This is a case report of one patient diagnosed with thyroid cancer with schwannoma originating from the recurrent laryngeal nerve in the neck, which was incidentally found during a thyroidectomy, and a review of the literature.

CONCLUSION

Preoperative diagnostic examinations are of less use for detecting schwannoma originating from a recurrent laryngeal nerve in the neck in such small size, which may only incidentally be found during a thyroidectomy. Surgical excision with opening the capsule and shelving out the tumor is the treatment of choice. If the nerve is unable to be preserved, end-to-end recurrent laryngeal nerve anastomosis may be a simple and minimally invasive reconstruction procedure to improve phonation.

Key words: Schwannoma; Recurrent laryngeal nerve; Thyroid cancer; Head and neck; Surgery; Case report

© **The Author(s) 2018.** Published by Baishideng Publishing Group Inc. All rights reserved.

Core tip: Schwannoma originating from the left recurrent laryngeal nerve is very rare. This paper showed the clinical manifestation and management of such a case, and a systematic literature review was also performed. This case has very useful clinical practice meanings for residents and medical students, including physicians and surgeons. Surgical excision with opening the capsule and shelling out the tumor is the treatment of choice. If the nerve is not able to be preserved, end-to-end recurrent laryngeal nerve anastomosis may be a simple and minimally invasive reconstruction procedure to improve phonation.

Xu XQ, Hong T, Zheng CJ. Schwannoma originating from the recurrent laryngeal nerve in a thyroid cancer patient: A case report and review of the literature. *World J Clin Cases* 2018; 6(16): 1202-1205
URL: <https://www.wjgnet.com/2307-8960/full/v6/i16/1202.htm>
DOI: <https://dx.doi.org/10.12998/wjcc.v6.i16.1202>

INTRODUCTION

Schwannoma is a rare tumor originating from any peripheral nerve or nerve root sheath, mostly in the head, neck, or extremities, which can occur as isolated or multiple lesions^[1]. These tumors are difficult to be diagnosed preoperatively as they may present at a multitude of sites and mimic a multitude of other neck lesions. Schwannoma rarely originates from the recurrent laryngeal nerve, and there are only few reports on schwannoma originating from the recurrent nerve in the mediastinum. The rarity and unremarkable symptoms of these tumors often result in a difficult preoperative diagnosis. Herein, we present an extremely rare case of schwannoma originating from the recurrent laryngeal nerve in the neck.

CASE PRESENTATION

Chief complaints

Suspected thyroid cancer found by routine health screening ultrasound with hoarseness for one year.

History of present illness

A 61-year-old man was referred to our hospital due to suspected thyroid cancer found by routine health screening ultrasound with hoarseness for one year.

History of past illness

None specific.

Physical examination

Unremarkable.

Laboratory testing

The laboratory data confirmed normal thyroid and parathyroid function.

Imaging examination

Thyroid ultrasound showed a solitary nodule with hypoechogenicity, irregular borders, and microcalcifications about 0.6 cm × 0.6 cm in the left thyroid lobe. Preoperative laryngoscopy revealed limited motion and low tension of the left vocal cord (Figure 1), which was suspected to be paralysis of the left recurrent laryngeal nerve caused by tumor invasion.

TREATMENT

The patient underwent thyroid nodule resection, and intraoperative frozen-section examination confirmed the diagnosis of thyroid papillary carcinoma. Thus, a total thyroidectomy with prophylactic ipsilateral central compartment lymph node dissection was performed. While dissecting the left recurrent laryngeal nerve, a mass originating from the left recurrent laryngeal nerve was found (Figure 2). Enucleation of the mass was tried, but the capsule could not be dissected from the nerve, so the mass was resected along the nerve, and the left recurrent laryngeal nerve was end-to-end anastomosed with 7-0 proline (Figure 3).

FINAL DIAGNOSIS

The resected tumor was a well-encapsulated solid mass measuring about 1.0 cm × 0.5 cm (Figure 4). The pathological results revealed an ancient type of schwannoma with a fibrous capsule, which showed nuclear palisading and hyaline growth of spindle cells. Immunohistochemistry assay demonstrated that the tumor cells were positive for S100. The final diagnosis was a benign neurilemoma originating from the left recurrent laryngeal nerve.

OUTCOME AND FOLLOW-UP

The postoperative recovery for the patient was uneventful, and his phonation reported by himself was improved one week later compared with that before the surgery.

DISCUSSION

Schwannomas are benign nerve sheath tumors of Schwann cell origin arising from nerves covered with a neurilemmal sheath. The tumor is usually solitary and can arise from any cranial or peripheral nerve, which is also called neurinoma, peripheral glioma, periphe-

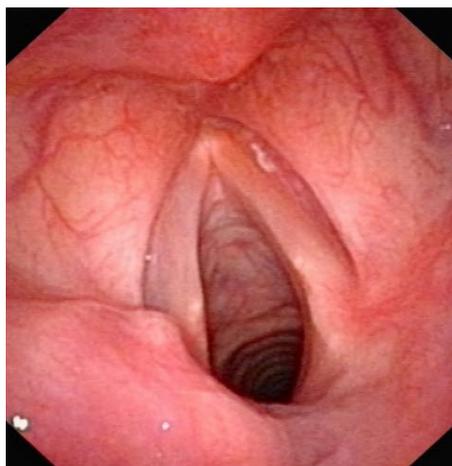


Figure 1 Preoperative laryngoscopy revealed limited motion and low tension of the left vocal cord.



Figure 4 The resected tumor was a well-encapsulated solid mass measuring about 1.0 cm × 0.5 cm.

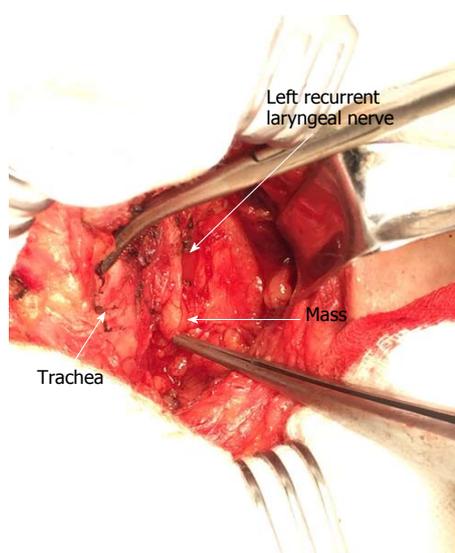


Figure 2 During the operation, a mass originating from the left recurrent laryngeal nerve was found (arrow).



Figure 3 The end-to-end anastomosed recurrent laryngeal nerve.

ral fibroblastoma, schwannoma, and neurilemmoma. About 25%-40% of cases occur in head and neck region^[1]. Schwannoma rarely originates from the recurrent laryngeal nerve, and there are few reports on schwannoma originating from the recurrent laryngeal nerve in the mediastinum^[2-4]. To the best of our knowledge, ancient schwannoma of the left recurrent laryngeal nerve found incidentally in a thyroidectomy with such small size has not been reported in the literature.

Imaging modalities such as ultrasound, computed tomography (CT), and magnetic resonance imaging (MRI) are often used to differentiate the lesions in the neck and to investigate the anatomical relationship between the lesions and the surrounding tissues. The most common ultrasound feature of a schwannoma is a well-defined, hypoechoic, homogeneous nodule without an echoic hilum. The nerve from which the tumor originates may seem to be stretched over the capsule, while the nerve fibers themselves may be thickened around the mass. The suspected diagnosis would not be made in most cases before ultrasound imaging and they may often mimic an enlarged or metastasized lymph node in the neck^[5]. Razek *et al*^[6] showed that diffusion-weighted MRI may be used for differentiation of schwannoma and lymph node. MRI is capable of reliably imaging not only the tumor and its capsule but also the nerve from which the tumor arises.

But usually, preoperative diagnostic examinations are of less use for detecting schwannoma originating from the recurrent laryngeal nerve in such small size, which may only incidentally be found during a thyroidectomy like this case. Generally, schwannoma originating from the recurrent laryngeal nerve may first mimic a thyroid mass or lymph node. Therefore, resection is necessary, both to remove the tumor and for diagnosis. If enucleation is possible by opening the capsule and shelling out the tumor, functional preservation of the nerve might be achieved. However, in most cases as seen here, complete tumor excision

with end-to-end nerve anastomosis may be the only feasible option^[1]. Unfortunately, if the nerve is not able to be preserved, end-to-end recurrent laryngeal nerve anastomosis may be a simple and minimally invasive reconstruction procedure to improve phonation. Although the reinnervated vocal cord did not regain normal movement, phonation was remarkably improved. Surgical reinnervation has been proved to be effective in restoring neural function to laryngeal muscles, which could prevent atrophy of laryngeal muscles, improve the bulk and position of vocal folds, and enhance overall vocal quality^[7].

In conclusion, in cases of small thyroid nodules with unexplained preoperative vocal palsy, a co-existent pathology such as schwannoma of the recurrent laryngeal nerve may be suspected. Surgical excision with opening the capsule and shelling out the tumor is the treatment of choice. If the nerve is not able to be preserved, end-to-end recurrent laryngeal nerve anastomosis may be a simple and minimally invasive reconstruction procedure to improve phonation.

EXPERIENCES AND LESSONS

Schwannomas originating from the recurrent laryngeal nerve are difficult to be diagnosed preoperatively as they may present at a multitude of sites and mimic a multitude of other neck lesions. Surgical excision with opening the capsule and shelling out the tumor is the treatment of choice. If the nerve was not able to be preserved, end-to-end recurrent laryngeal nerve

anastomosis may be a simple and minimally invasive reconstruction procedure. The reconstruction *via* recurrent laryngeal nerve anastomosis may improve phonation.

REFERENCES

- 1 **Pillai S**, Agarwal AC, Mathew M, Nayak DR. Ancient schwannoma mimicking a thyroid mass with retrosternal extension. *BMJ Case Rep* 2013; **2013**: pii: bcr2013200608 [PMID: 24001735 DOI: 10.1136/bcr-2013-200608]
- 2 **Sasaki K**, Kohno T, Mun M, Yoshiya T. Thoracoscopic removal of middle mediastinal schwannoma originating from recurrent nerve. *Thorac Cardiovasc Surg* 2008; **56**: 375-377 [PMID: 18704866 DOI: 10.1055/s-2008-1038471]
- 3 **Varaldo E**, Crespi G, Ansaldo GL, Borgonovo G, Boccardo F, Torre G. Neurinoma originating from the recurrent nerve: report of a case. *Surg Today* 2008; **38**: 633-634 [PMID: 18612788 DOI: 10.1007/s00595-007-3714-2]
- 4 **Ito T**, Komatsu D, Nakata T, Kumaki T, Aoki T, Kasuga Y. Neurilemoma originating from the left recurrent nerve in the superior mediastinum: report of a case. *Surg Today* 2004; **34**: 769-771 [PMID: 15338351 DOI: 10.1007/s00595-004-2794-5]
- 5 **Miyauchi A**, Matsusaka K, Kawaguchi H, Nakamoto K, Maeda M. Ansa-recurrent nerve anastomosis for vocal cord paralysis due to mediastinal lesions. *Ann Thorac Surg* 1994; **57**: 1020-1021 [PMID: 8166501 DOI: 10.1016/0003-4975(94)90230-5]
- 6 **Razek AAKA**, Ashmalla GA. Assessment of paraspinal neurogenic tumors with diffusion-weighted MR imaging. *Eur Spine J* 2018; **27**: 841-846 [PMID: 28821978 DOI: 10.1007/s00586-017-5265-6]
- 7 **Miyauchi A**, Inoue H, Tomoda C, Fukushima M, Kihara M, Higashiyama T, Takamura Y, Ito Y, Kobayashi K, Miya A. Improvement in phonation after reconstruction of the recurrent laryngeal nerve in patients with thyroid cancer invading the nerve. *Surgery* 2009; **146**: 1056-1062 [PMID: 19958932 DOI: 10.1016/j.surg.2009.09.018]

P- Reviewer: Akbulut S, Dhiwakar M, Noussios GI, Razek AAKA
S- Editor: Ji FF **L- Editor:** Wang TQ **E- Editor:** Wu YXJ





Published by **Baishideng Publishing Group Inc**
7901 Stoneridge Drive, Suite 501, Pleasanton, CA 94588, USA
Telephone: +1-925-223-8242
Fax: +1-925-223-8243
E-mail: bpgoffice@wjgnet.com
Help Desk: <https://www.f6publishing.com/helpdesk>
<https://www.wjgnet.com>

