

World Journal of *Clinical Cases*

World J Clin Cases 2022 September 16; 10(26): 9180-9549



Contents

Thrice Monthly Volume 10 Number 26 September 16, 2022

REVIEW

- 9180** Assisting individuals with diabetes in the COVID-19 pandemic period: Examining the role of religious factors and faith communities

Eseadi C, Ossai OV, Onyishi CN, Ilechukwu LC

- 9192** Role of octreotide in small bowel bleeding

Khedr A, Mahmoud EE, Attallah N, Mir M, Boike S, Rauf I, Jama AB, Mushtaq H, Surani S, Khan SA

MINIREVIEWS

- 9207** Internet of things-based health monitoring system for early detection of cardiovascular events during COVID-19 pandemic

Dami S

- 9219** Convergence mechanism of mindfulness intervention in treating attention deficit hyperactivity disorder: Clues from current evidence

Xu XP, Wang W, Wan S, Xiao CF

- 9228** Clinical presentation, management, screening and surveillance for colorectal cancer during the COVID-19 pandemic

Akbulut S, Hargura AS, Garzali IU, Aloun A, Colak C

- 9241** Early diagnostic value of liver stiffness measurement in hepatic sinusoidal obstruction syndrome induced by hematopoietic stem cell transplantation

Tan YW, Shi YC

ORIGINAL ARTICLE

Case Control Study

- 9254** Local inflammatory response to gastroesophageal reflux: Association of gene expression of inflammatory cytokines with esophageal multichannel intraluminal impedance-pH data

Morozov S, Sentsova T

Retrospective Study

- 9264** Evaluation of high-risk factors and the diagnostic value of alpha-fetoprotein in the stratification of primary liver cancer

Jiao HB, Wang W, Guo MN, Su YL, Pang DQ, Wang BL, Shi J, Wu JH

- 9276** One-half layer pancreaticojejunostomy with the rear wall of the pancreas reinforced: A valuable anastomosis technique

Wei JP, Tai S, Su ZL

- 9285** Development and validation of an epithelial-mesenchymal transition-related gene signature for predicting prognosis

Zhou DH, Du QC, Fu Z, Wang XY, Zhou L, Wang J, Hu CK, Liu S, Li JM, Ma ML, Yu H

Observational Study

- 9303** Incidence and risk factor analysis for swelling after apical microsurgery

Bi C, Xia SQ, Zhu YC, Lian XZ, Hu LJ, Rao CX, Jin HB, Shang XD, Jin FF, Li JY, Zheng P, Wang SH

CASE REPORT

- 9310** Acute carotid stent thrombosis: A case report and literature review

Zhang JB, Fan XQ, Chen J, Liu P, Ye ZD

- 9318** Congenital ovarian anomaly manifesting as extra tissue connection between the two ovaries: A case report

Choi MG, Kim JW, Kim YH, Kim AM, Kim TY, Ryu HK

- 9323** Cefoperazone-sulbactam and ornidazole for *Gardnerella vaginalis* bloodstream infection after cesarean section: A case report

Mu Y, Li JJ, Wu X, Zhou XF, Tang L, Zhou Q

- 9332** Early-onset ophthalmoplegia, cervical dyskinesia, and lower extremity weakness due to partial deletion of chromosome 16: A case report

Xu M, Jiang J, He Y, Gu WY, Jin B

- 9340** Posterior mediastinal extralobar pulmonary sequestration misdiagnosed as a neurogenic tumor: A case report

Jin HJ, Yu Y, He W, Han Y

- 9348** Unexpected difficult airway due to severe upper tracheal distortion: A case report

Zhou JW, Wang CG, Chen G, Zhou YF, Ding JF, Zhang JW

- 9354** Special epithelioid trophoblastic tumor: A case report

Wang YN, Dong Y, Wang L, Chen YH, Hu HY, Guo J, Sun L

- 9361** Intrahepatic multicystic biliary hamartoma: A case report

Wang CY, Shi FY, Huang WF, Tang Y, Li T, He GL

- 9368** ST-segment elevation myocardial infarction in Kawasaki disease: A case report and review of literature

Lee J, Seo J, Shin YH, Jang AY, Suh SY

- 9378** Bilateral hypocalcaemic cataracts due to idiopathic parathyroid insufficiency: A case report

Li Y

- 9384** Single organ hepatic artery vasculitis as an unusual cause of epigastric pain: A case report

Kaviani R, Farrell J, Dehghan N, Moosavi S

- 9390** Congenital lipoid adrenal hyperplasia with Graves' disease: A case report

Wang YJ, Liu C, Xing C, Zhang L, Xu WF, Wang HY, Wang FT

- 9398** Cytokine release syndrome complicated with rhabdomyolysis after chimeric antigen receptor T-cell therapy: A case report
Zhang L, Chen W, Wang XM, Zhang SQ
- 9404** Antiphospholipid syndrome with renal and splenic infarction after blunt trauma: A case report
Lee NA, Jeong ES, Jang HS, Park YC, Kang JH, Kim JC, Jo YG
- 9411** Uncontrolled high blood pressure under total intravenous anesthesia with propofol and remifentanyl: A case report
Jang MJ, Kim JH, Jeong HJ
- 9417** Noncirrhotic portal hypertension due to peripheral T-cell lymphoma, not otherwise specified: A case report
Wu MM, Fu WJ, Wu J, Zhu LL, Niu T, Yang R, Yao J, Lu Q, Liao XY
- 9428** Resumption of school after lockdown in COVID-19 pandemic: Three case reports
Wang KJ, Cao Y, Gao CY, Song ZQ, Zeng M, Gong HL, Wen J, Xiao S
- 9434** Complete recovery from segmental zoster paresis confirmed by magnetic resonance imaging: A case report
Park J, Lee W, Lim Y
- 9440** Imaging findings of immunoglobulin G4-related hypophysitis: A case report
Lv K, Cao X, Geng DY, Zhang J
- 9447** Systemic lupus erythematosus presenting with progressive massive ascites and CA-125 elevation indicating Tjasma syndrome? A case report
Wang JD, Yang YF, Zhang XF, Huang J
- 9454** Locally advanced cervical rhabdomyosarcoma in adults: A case report
Xu LJ, Cai J, Huang BX, Dong WH
- 9462** Rapid progressive vaccine-induced immune thrombotic thrombocytopenia with cerebral venous thrombosis after ChAdOx1 nCoV-19 (AZD1222) vaccination: A case report
Jiang SK, Chen WL, Chien C, Pan CS, Tsai ST
- 9470** Burkitt-like lymphoma with 11q aberration confirmed by needle biopsy of the liver: A case report
Yang HJ, Wang ZM
- 9478** Common carotid artery thrombosis and malignant middle cerebral artery infarction following ovarian hyperstimulation syndrome: A case report
Xu YT, Yin QQ, Guo ZR
- 9484** Postoperative radiotherapy for thymus salivary gland carcinoma: A case report
Deng R, Li NJ, Bai LL, Nie SH, Sun XW, Wang YS
- 9493** Follicular carcinoma of the thyroid with a single metastatic lesion in the lumbar spine: A case report
Chen YK, Chen YC, Lin WX, Zheng JH, Liu YY, Zou J, Cai JH, Ji ZQ, Chen LZ, Li ZY, Chen YX

- 9502** Guillain-Barré syndrome and hemophagocytic syndrome heralding the diagnosis of diffuse large B cell lymphoma: A case report
Zhou QL, Li ZK, Xu F, Liang XG, Wang XB, Su J, Tang YF
- 9510** Intravitreal injection of conbercept for bullous retinal detachment: A case report
Xiang XL, Cao YH, Jiang TW, Huang ZR
- 9518** Supratentorial hemangioblastoma at the anterior skull base: A case report
Xu ST, Cao X, Yin XY, Zhang JY, Nan J, Zhang J

META-ANALYSIS

- 9524** Certain sulfonylurea drugs increase serum free fatty acid in diabetic patients: A systematic review and meta-analysis
Yu M, Feng XY, Yao S, Wang C, Yang P

LETTER TO THE EDITOR

- 9536** Glucose substrate in the hydrogen breath test for gut microbiota determination: A recommended noninvasive test
Xie QQ, Wang JF, Zhang YF, Xu DH, Zhou B, Li TH, Li ZP
- 9539** A rare cause of acute abdomen after a Good Friday
Pante L, Brito LG, Franciscatto M, Brambilla E, Soldera J
- 9542** Obesity is associated with colitis in women but not necessarily causal relationship
Shen W, He LP, Zhou LL
- 9545** Risk stratification of primary liver cancer
Tan YW

ABOUT COVER

Editorial Board Member of *World Journal of Clinical Cases*, Youngmin Oh, MD, PhD, Associate Professor, Neurosurgeon, Department of Neurosurgery, Jeonbuk National University Medical School/Hospital, Jeonju 54907, Jeollabukdo, South Korea. timoh@jbnu.ac.kr

AIMS AND SCOPE

The primary aim of *World Journal of Clinical Cases* (WJCC, *World J Clin Cases*) is to provide scholars and readers from various fields of clinical medicine with a platform to publish high-quality clinical research articles and communicate their research findings online.

WJCC mainly publishes articles reporting research results and findings obtained in the field of clinical medicine and covering a wide range of topics, including case control studies, retrospective cohort studies, retrospective studies, clinical trials studies, observational studies, prospective studies, randomized controlled trials, randomized clinical trials, systematic reviews, meta-analysis, and case reports.

INDEXING/ABSTRACTING

The WJCC is now abstracted and indexed in Science Citation Index Expanded (SCIE, also known as SciSearch®), Journal Citation Reports/Science Edition, Current Contents®/Clinical Medicine, PubMed, PubMed Central, Scopus, Reference Citation Analysis, China National Knowledge Infrastructure, China Science and Technology Journal Database, and Superstar Journals Database. The 2022 Edition of Journal Citation Reports® cites the 2021 impact factor (IF) for WJCC as 1.534; IF without journal self cites: 1.491; 5-year IF: 1.599; Journal Citation Indicator: 0.28; Ranking: 135 among 172 journals in medicine, general and internal; and Quartile category: Q4. The WJCC's CiteScore for 2021 is 1.2 and Scopus CiteScore rank 2021: General Medicine is 443/826.

RESPONSIBLE EDITORS FOR THIS ISSUE

Production Editor: Hua-Ge Yin; Production Department Director: Xu Guo; 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

Thrice Monthly

EDITORS-IN-CHIEF

Bao-Gan Peng, Jerzy Tadeusz Chudek, George Kontogeorgos, Maurizio Serati, Ja Hyeon Ku

EDITORIAL BOARD MEMBERS

<https://www.wjgnet.com/2307-8960/editorialboard.htm>

PUBLICATION DATE

September 16, 2022

COPYRIGHT

© 2022 Baishideng Publishing Group Inc

INSTRUCTIONS TO AUTHORS

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

GUIDELINES FOR ETHICS DOCUMENTS

<https://www.wjgnet.com/bpg/GerInfo/287>

GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH

<https://www.wjgnet.com/bpg/gerinfo/240>

PUBLICATION ETHICS

<https://www.wjgnet.com/bpg/GerInfo/288>

PUBLICATION MISCONDUCT

<https://www.wjgnet.com/bpg/gerinfo/208>

ARTICLE PROCESSING CHARGE

<https://www.wjgnet.com/bpg/gerinfo/242>

STEPS FOR SUBMITTING MANUSCRIPTS

<https://www.wjgnet.com/bpg/GerInfo/239>

ONLINE SUBMISSION

<https://www.f6publishing.com>



Unexpected difficult airway due to severe upper tracheal distortion: A case report

Jian-Wei Zhou, Chuan-Guang Wang, Gang Chen, You-Fa Zhou, Jia-Feng Ding, Jia-Wei Zhang

Specialty type: Anesthesiology

Provenance and peer review:

Unsolicited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's scientific quality classification

Grade A (Excellent): 0
Grade B (Very good): 0
Grade C (Good): C, C, C
Grade D (Fair): 0
Grade E (Poor): 0

P-Reviewer: Lee KS, South Korea;
Pandey NM, India; Tsuchiya M, Japan

Received: April 1, 2022

Peer-review started: April 1, 2022

First decision: June 16, 2022

Revised: June 20, 2022

Accepted: August 5, 2022

Article in press: August 5, 2022

Published online: September 16, 2022



Jian-Wei Zhou, Chuan-Guang Wang, Jia-Wei Zhang, Department of Anesthesia, The Fifth Affiliated Hospital of Wenzhou Medical University, Lishui Municipal Central Hospital, Lishui 323000, Zhejiang Province, China

Gang Chen, You-Fa Zhou, Department of Anesthesia, Sir Run Run Shaw Hospital, Hangzhou 310016, Zhejiang Province, China

Jia-Feng Ding, Department of Urology, The Fifth Affiliated Hospital of Wenzhou Medical University, Lishui Municipal Central Hospital, Lishui 323000, Zhejiang Province, China

Corresponding author: Chuan-Guang Wang, BMed, Doctor, MD, MMed, Adjunct Associate Professor, Associate Chief Physician, Department of Anesthesia, The Fifth Affiliated Hospital of Wenzhou Medical University, Lishui Municipal Central Hospital, No. 289 Kuocang Road, Lishui 323000, Zhejiang Province, China. wcg9088@163.com

Abstract

BACKGROUND

Difficult airway is a significant cause of anesthesia-associated death and disability. Currently, physical examinations of thyromental distance, mouth opening, Mafampai classification, *etc.* combined with X-ray, computed tomography (CT), and other imaging technologies are mainly used to evaluate difficult airways. However, in many special cases, *i.e.*, emergency surgery, imaging examinations cannot be completed preoperatively. Such patients' airway can only be evaluated through general physical examination, which inevitably increases the likelihood of an unexpected difficult airway during anesthesia.

CASE SUMMARY

We report a rare case of difficult intubation because of severe upper trachea distortion after induction. Emergency holmium laser lithotripsy was performed under transurethral ureteroscopy because the patient had anuria for 4 d and a creatinine level of 890 $\mu\text{mol/L}$. Due to the urgency of the condition, chest radiography or chest CT was not examined before surgery and the anesthesiologist did not evaluate the airway adequately, resulting in an unexpected difficult airway.

CONCLUSION

The incidence of tracheal malformation and tracheal stenosis is extremely low, but the risk of hypoxia and even death due to difficult airways is extremely high for such patients. It is recommended to complete preoperative imaging examinations

of the airway. For life-threatening emergency patients, a pre-anesthesia reassessment should be performed and surgeons should be prepared to prevent and manage the difficult airway.

Key Words: Tracheal distortion; Difficult airway; Management; Imaging examination; Emergency

©The Author(s) 2022. Published by Baishideng Publishing Group Inc. All rights reserved.

Core Tip: In this paper, we report a case of severe upper tracheal distortion resulting in an unexpectedly difficult airway. The incidence of tracheal malformation and tracheal stenosis is extremely low, but the risk of hypoxia and even death due to difficult airways is extremely high for such patients. It is recommended to complete preoperative imaging examinations of the airway. For life-threatening emergency patients, a pre-anesthesia reassessment should be performed, attention should be paid to bedside physical examination, and surgeons should be prepared to prevent and manage the difficult airway.

Citation: Zhou JW, Wang CG, Chen G, Zhou YF, Ding JF, Zhang JW. Unexpected difficult airway due to severe upper tracheal distortion: A case report. *World J Clin Cases* 2022; 10(26): 9348-9353

URL: <https://www.wjgnet.com/2307-8960/full/v10/i26/9348.htm>

DOI: <https://dx.doi.org/10.12998/wjcc.v10.i26.9348>

INTRODUCTION

Difficult airway is a significant cause of anesthesia-associated death and disability; a previous study suggests that 30% of anesthesia-associated death events are related to improper airway safety management[1,2]. Currently, physical examinations of thyromental distance, mouth opening, Mafampaii classification, *etc.* combined with X-ray, computed tomography (CT), and other imaging technologies are mainly used to evaluate difficult airways. However, in many special cases, *i.e.*, emergency surgery, imaging examinations cannot be completed preoperatively. Such patients' airway can only be evaluated through general physical examination, which inevitably increases the likelihood of an unexpected difficult airway during anesthesia[3,4]. Herein we report the anesthesia care of a patient who underwent emergency surgery with an unexpected difficult airway due to severe upper tracheal distortion.

CASE PRESENTATION

Chief complaints

A male patient presented with left lumbago with anuria for 4 d.

History of present illness

The patient developed left lumbago and anuria for 4 d without obvious inducement. He was diagnosed with left ureteral calculi accompanied by hydronephrosis and infection, renal failure, urinary tract infection, gallbladder calculi, traumatic osteoarthropathy of the right hip joint, and hypertension.

History of past illness

The patient had previous hypertension for many years (taking amlodipine tablets 5 mg, QD), his blood pressure control was reasonable, and he had no headache, dizziness, or discomfort. He had a history of right hip injury in childhood, hepatitis, and tuberculosis.

Personal and family history

This part does not cover related content.

Physical examination

The physical examinations revealed the following: Temperature: 36.5 °C; Pulse rate: 78 times/min; Respiration rate: 20 times/min; Blood pressure: 213/102 mmHg; Height 160 cm; Weight 55 kg; Scoliosis; Rales in the lower lungs; Deformity of the right lower limb; Percussive pain in the left kidney area (+).

Laboratory examinations

Positive laboratory results mainly included C-reactive protein 47.65 mg/L, white blood cell count $12.7 \times 10^9/L$, creatinine 890 $\mu\text{mol/L}$, and potassium 4.80 mmol/L.

Imaging examinations

Ultrasonography of the urinary system showed nephrocalcinosis with echogenic changes and hydronephrosis of the right kidney; compensatory renal enlargement with echogenic change and multiple renal calculi with hydronephrosis of the left kidney, as well as dilation of the left upper ureter. Abdominal CT showed left lower ureteral calculi with upper urinary tract hydrosis, ascites, nephrocalcinosis of the right kidney, and bilateral renal small calculi. Preoperative diagnoses included renal failure, hyperkalemia, and left ureteral calculi with hydrosis and infection. In order to find the real cause of the patient's unanticipated difficult airway, postoperative CT scan and 3D reconstruction of the trachea (see Figures 1 and 2) and fiberoptic bronchoscopy (see Figure 3) were performed after receiving the patient's informed consent.

FINAL DIAGNOSIS

The final diagnoses were as follows: (1) Ureteral calculus with hydronephrosis and infection (left); (2) Kidney failure; (3) Urinary tract infection; (4) Bronchitis; (5) Hypertension; (6) Emphysema; and (7) Traumatic arthropathy of the hip (right).

TREATMENT

Emergency holmium laser lithotripsy was performed under transurethral ureteroscopy and general anesthesia.

OUTCOME AND FOLLOW-UP

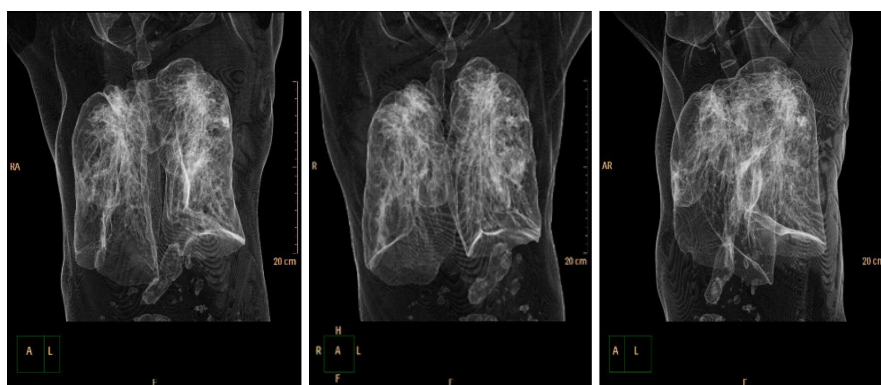
No adverse events occurred, and the patient benefited from timely treatment in accordance with the guidelines.

DISCUSSION

The incidence of tracheal malformation and tracheal stenosis is extremely low, and its pathogenesis is still unclear. It is believed that factors causing abnormal differentiation of tissues and organs could lead to tracheal dysplasia or malformed changes resulting in a difficult airway perioperatively[5]. Medical risks are also different due to various factors such as the patient's characteristics, medical history, surgical method, and current condition[6]. Since the airway cannot be opened, the chance of severe complications such as cerebral hypoxia or cardiac arrest in a short period of time increases[7]. To prevent such risks clinically, airway assessment has become a critical part of preoperative risk assessment to prevent the difficult airway from causing severe anesthesia complications or even death.

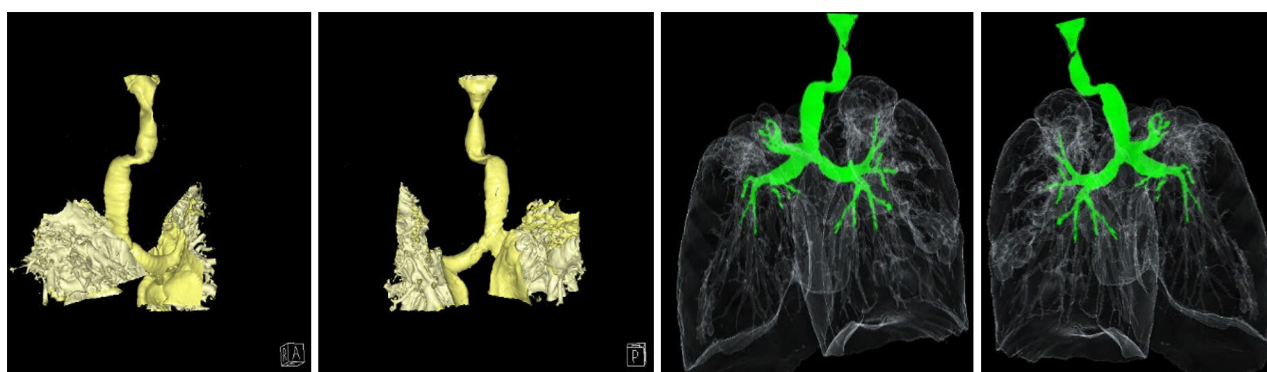
A previous study has suggested that three-dimensional reconstruction of the trachea and bronchus has high sensitivity and accuracy in diagnosing tracheobronchial stenosis[8]. The patient's postoperative airway reconstruction from CT images suggested a severe rightward twist at about 2.8 cm below the glottis of the main trachea, and the twist turned laterally at about 1.1 cm and then downward until the tracheal jugum. Meanwhile, tracheoscopy revealed severe twisting of the main trachea with mild stenosis. This result was consistent with the difficulty of inserting the tracheal catheter after it was 2 cm passing through the glottis and the condition of two consecutive turns found under fiberoptic bronchial guidance. It further confirmed that the patient's severe tracheal distortion caused the inability of the steel-wire reinforced tracheal tube to pass through the corner with stenosis. Due to surgical urgency, although the basic condition of the patient was assessed before anesthesia, because the patient's trachea was twisted high and close to his larynx, condition like malformation of the trachea was not detected in time during the assessment, resulting in the unexpected difficult airway. Fortunately, in this case, the anesthesiologist mastered good airway safety management skills and followed the difficult airway management guidelines to adopt standardized procedures to manage unexpected difficult airways in the critical situation, thus not leading to serious adverse consequences[9].

Further inquiry of the medical history after the operation revealed that the patient had secondary tuberculosis for more than 40 years and developed thoracic scoliosis 5 years ago, but the patient denied any history of poliomyelitis and other diseases. Considering the patient's imaging findings, his long-



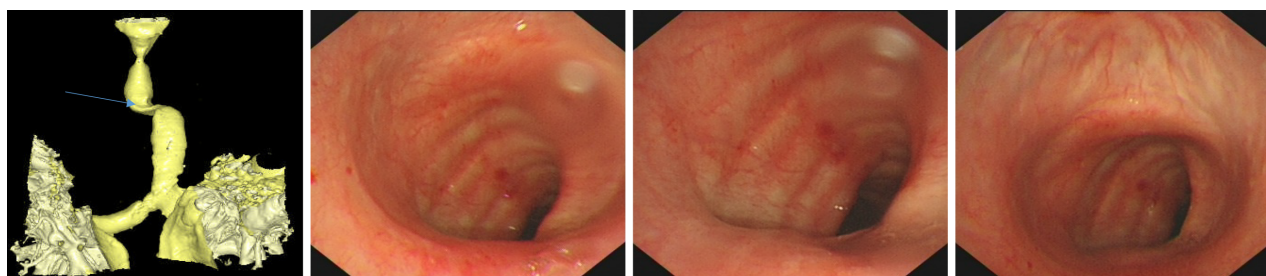
DOI: 10.12998/wjcc.v10.i26.9348 Copyright ©The Author(s) 2022.

Figure 1 3D computed tomography scan image of trachea and lung.



DOI: 10.12998/wjcc.v10.i26.9348 Copyright ©The Author(s) 2022.

Figure 2 3D computed tomography reconstruction of the trachea.



DOI: 10.12998/wjcc.v10.i26.9348 Copyright ©The Author(s) 2022.

Figure 3 Image under bronchoscopy. The blue arrow shows the site of distortion of the upper airway, the fiberoptic bronchoscopy figures are more intuitive.

term chronic secondary tuberculosis may have led to significant lateral traction of the lung tissue, which caused a twisted trachea. In addition, given the patient's conditions of thoracic scoliosis, thoracic malformation, *etc.*, severe tracheal distortion and stenosis caused by the above reasons cannot be ruled out. To this end, we searched the studies in multiple databases, and no report of severe trachea distortion caused by diseases, *i.e.*, tuberculosis, was reported, while the studies and reports about etiologies of airway distortion have suggested that the history of diphtheria in childhood, airway fatty deposition, and mucopolysaccharidosis can lead to severe airway stenosis and trachea tortuosity[10-12]. However, when the patient's medical history was further inquired about after surgery to understand his specific condition, it was found that the patient had only a junior education level, paid minimal attention to his diseases, and had no relevant medical information records. As a result, the abovementioned influencing factors could not be confirmed by the patient's past illness history.

According to the above discussions, anesthesiologists should clinically pay close attention to unexpected difficult airways, especially in emergency surgery patients. Sorbello *et al*[13] confirmed that the commonly used clinical methods to measure airway difficulty include Mafampaii classification, thyromental distance, mouth opening, head-neck range of motion, chest-chin distance, *etc.* However,

these methods cannot accurately predict the probability of intubation difficulty when performing laryngoscopy directly. It is believed that no perfect airway assessment tool can comprehensively address the risk assessment needs of patients with a difficult airway. In contrast, the combined analysis of multiple assessment tools can better predict complex and difficult airways[14]. The study also suggested that preoperative airway ultrasound can be used to evaluate the intubation conditions of patients. However, it is unclear which specific ultrasonic scan parameters can be used as reliable indicators for evaluating difficult airways[15,16].

Hence, when a patient does not have distinctive features of difficult airway, such as glossohypertrophy, oral soft tissue abscesses, and lack of radiological imaging results due to emergency resuscitation or other reasons, more attention should be paid to bedside assessment. Especially, preoperative airway imaging including ultrasonography of airway, pulmonary auscultation, *etc.* are particularly important[17-19]. The patient was in critical condition upon admission; therefore, emergency ureteroscopy holmium laser lithotripsy was performed without a preoperative chest radiology examination, resulting in inadequate preparation before anesthesia, the inability to assess the risk of anesthesia before surgery fully, as well as an unexpected difficult airway. Fortunately, no adverse event occurred due to proper management.

CONCLUSION

In summary, severe upper tracheal malformation in adult patients is very rare, but the risk of hypoxia and even death due to difficult airways is extremely high for such patients. Especially for patients with a preoperative history of neck trauma surgery, pulmonary tuberculosis, diphtheria, airway fatty deposition, mucopolysaccharidosis, *etc.*, enough attention should be paid to perioperative anesthesia and safety management. It is recommended to complete preoperative imaging examinations of the airway as much as possible. For life-threatening emergency patients, a pre-anesthesia reassessment should be performed, attention should be paid to bedside physical examination, and surgeons always be prepared to prevent and manage the difficult airway.

FOOTNOTES

Author contributions: Zhou JW and Wang CG contributed to manuscript writing and editing, and data collection; all authors have read and approved the final manuscript.

Informed consent statement: The patient provided informed consent for the publication of this case report.

Conflict-of-interest statement: All authors have no conflict of interest to disclose.

CARE Checklist (2016) statement: The care checklist was uploaded at the time of first submission.

Open-Access: This article is an open-access article that was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution NonCommercial (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: <https://creativecommons.org/licenses/by-nc/4.0/>

Country/Territory of origin: China

ORCID number: Chuan-Guang Wang 0000-0002-1657-9673; Gang Chen 0000-0002-8359-7417.

S-Editor: Wang LL

L-Editor: Wang TQ

P-Editor: Wang LL

REFERENCES

- 1 Xia M, Cao S, Zhou R, Wang JY, Xu TY, Zhou ZK, Qian YM, Jiang H. Acoustic features as novel predictors of difficult laryngoscopy in orthognathic surgery: an observational study. *Ann Transl Med* 2021; **9**: 1466 [PMID: 34734018 DOI: 10.21037/atm-21-4359]
- 2 Cook TM, MacDougall-Davis SR. Complications and failure of airway management. *Br J Anaesth* 2012; **109** Suppl 1: i68-i85 [PMID: 23242753 DOI: 10.1093/bja/aes393]
- 3 Yi H, Wang K, Liang CB. One Elderly Patient with Unexpected Difficult Airway: Secondary Tracheal Distortion Caused by Cervical Vertebra Surgery in Childhood. *Zhonghua Mazuixue Zazhi* 2021; **41**: 256 [DOI: 10.3760/cma.j.issn.0529-5548.2021.04.0256]

- 10.3760/cma.j.cn131073.20200414.00230]
- 4 **Foz C**, Peyton J, Staffa SJ, Kovatsis P, Park R, DiNardo JA, Nasr VG. Airway Abnormalities in Patients With Congenital Heart Disease: Incidence and Associated Factors. *J Cardiothorac Vasc Anesth* 2021; **35**: 139-144 [PMID: [32859491](#) DOI: [10.1053/j.jvca.2020.07.086](#)]
 - 5 **Subspecialty Group of Pharyngology**. Society of Otorhinolaryngology Head and Neck Surgery, Chinese Medical Association; Subspecialty Group of Phoniatrics, Society of Otorhinolaryngology Head and Neck Surgery, Chinese Medical Association; Subspecialty Group of Pharyngology of Editorial Committee of the Chinese Journal of Otorhinolaryngology Head and Neck Surgery, Chinese Medical Association. Expert Consensus on Diagnosis and Treatment of Laryngotracheal Stenosis. *Zhonghua Erbiyanhoutoujing Waike Zazhi* 2018; **53**: 410-413 [DOI: [10.3760/cma.j.issn.1673-0860.2018.06.003](#)]
 - 6 **Zuercher M**, Casso G, Krugel V, Potié A, Barry MP, Schoettker P. Tracheal intubation using intubating laryngeal tube iLTS-D™ and LMA Fastrach™ in 99 adult patients: A prospective multicentric randomised non-inferiority study. *J Clin Anesth* 2022; **78**: 110671 [PMID: [35151143](#) DOI: [10.1016/j.jclinane.2022.110671](#)]
 - 7 **Fiadjoe JE**, Nishisaki A, Jagannathan N, Hunyady AI, Greenberg RS, Reynolds PI, Matuszczak ME, Rehman MA, Polaner DM, Szmuk P, Nadkarni VM, McGowan FX Jr, Litman RS, Kovatsis PG. Airway management complications in children with difficult tracheal intubation from the Pediatric Difficult Intubation (PeDI) registry: a prospective cohort analysis. *Lancet Respir Med* 2016; **4**: 37-48 [PMID: [26705976](#) DOI: [10.1016/S2213-2600\(15\)00508-1](#)]
 - 8 **Toyota K**, Uchida H, Ozasa H, Motooka A, Sakura S, Saito Y. Preoperative airway evaluation using multi-slice three-dimensional computed tomography for a patient with severe tracheal stenosis. *Br J Anaesth* 2004; **93**: 865-867 [PMID: [15465839](#) DOI: [10.1093/bja/aei283](#)]
 - 9 **Apfelbaum JL**, Hagberg CA, Connis RT, Abdelmalak BB, Agarkar M, Dutton RP, Fiadjoe JE, Greif R, Klock PA, Mercier D, Myatra SN, O'Sullivan EP, Rosenblatt WH, Sorbello M, Tung A. 2022 American Society of Anesthesiologists Practice Guidelines for Management of the Difficult Airway. *Anesthesiology* 2022; **136**: 31-81 [PMID: [34762729](#) DOI: [10.1097/ALN.0000000000004002](#)]
 - 10 **Antoniou T**, Papadopoulos K, Kampanarou S, Ftikos P, Perreas K, Theodoraki K. Secondary tracheal distortion in an adult patient after therapy for diphtheria at childhood. *J Card Surg* 2020; **35**: 1115-1118 [PMID: [32160332](#) DOI: [10.1111/jocs.14502](#)]
 - 11 **Poore TS**, Prager J, Weinman JP, Larson A, Houin P. Tracheal and lower airway changes in a patient with mucopolidosis type II. *Pediatr Pulmonol* 2020; **55**: 1843-1845 [PMID: [32270604](#) DOI: [10.1002/ppul.24765](#)]
 - 12 **Gadepalli C**, Stepien KM, Sharma R, Jovanovic A, Tol G, Bentley A. Airway Abnormalities in Adult Mucopolysaccharidosis and Development of Salford Mucopolysaccharidosis Airway Score. *J Clin Med* 2021; **10** [PMID: [34362059](#) DOI: [10.3390/jcm10153275](#)]
 - 13 **Sorbello M**, Petrini F. Supraglottic Airway Devices: the Search for the Best Insertion Technique or the Time to Change Our Point of View? *Turk J Anaesthesiol Reanim* 2017; **45**: 76-82 [PMID: [28439437](#) DOI: [10.5152/TJAR.2017.67764](#)]
 - 14 **Detsky ME**, Jivraj N, Adhikari NK, Friedrich JO, Pinto R, Simel DL, Wijesundera DN, Scales DC. Will This Patient Be Difficult to Intubate? *JAMA* 2019; **321**: 493-503 [PMID: [30721300](#) DOI: [10.1001/jama.2018.21413](#)]
 - 15 **Gottlieb M**, Holladay D, Burns KM, Nakitende D, Bailitz J. Ultrasound for airway management: An evidence-based review for the emergency clinician. *Am J Emerg Med* 2020; **38**: 1007-1013 [PMID: [31843325](#) DOI: [10.1016/j.ajem.2019.12.019](#)]
 - 16 **Falcetta S**, Cavallo S, Gabbanelli V, Pelaia P, Sorbello M, Zdravkovic I, Donati A. Evaluation of two neck ultrasound measurements as predictors of difficult direct laryngoscopy: A prospective observational study. *Eur J Anaesthesiol* 2018; **35**: 605-612 [PMID: [29889671](#) DOI: [10.1097/EJA.0000000000000832](#)]
 - 17 **Binar M**, Arslan F, Aydin U. Another cause of difficult airway in an elderly patient: Tongue-base abscess. *Gerodontology* 2018; **35**: 155-158 [PMID: [29733530](#) DOI: [10.1111/ger.12330](#)]
 - 18 **Bruno MA**, Drabek T, Manole MD. Difficult Intubation and Ventilation in an Infant With Retropharyngeal Abscess With Mediastinal Extension. *Pediatr Emerg Care* 2019; **35**: e104-e106 [PMID: [28719483](#) DOI: [10.1097/PEC.0000000000001242](#)]
 - 19 **Yoshimatsu Y**, Morita R, Suganaka M, Furukawa K, Nakamura N, Yamairi K, Maruyama N, Kaji M, Kamimori T, Fujiwara H. Difficult intubation due to unknown congenital tracheal stenosis in the adult: a case report and literature review. *J Thorac Dis* 2018; **10**: E93-E97 [PMID: [29607194](#) DOI: [10.21037/jtd.2018.01.36](#)]



Published by **Baishideng Publishing Group Inc**
7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA

Telephone: +1-925-3991568

E-mail: bpgoffice@wjgnet.com

Help Desk: <https://www.f6publishing.com/helpdesk>

<https://www.wjgnet.com>

