World Journal of *Clinical Cases*

World J Clin Cases 2022 August 6; 10(22): 7620-8056





Published by Baishideng Publishing Group Inc

W J C C World Journal of Clinical Cases

Contents

Thrice Monthly Volume 10 Number 22 August 6, 2022

OPINION REVIEW

7620 Whipple's operation with a modified centralization concept: A model in low-volume Caribbean centers Cawich SO, Pearce NW, Naraynsingh V, Shukla P, Deshpande RR

REVIEW

7631 Role of micronutrients in Alzheimer's disease: Review of available evidence Fei HX, Qian CF, Wu XM, Wei YH, Huang JY, Wei LH

MINIREVIEWS

- 7642 Application of imaging techniques in pancreaticobiliary maljunction Wang JY, Mu PY, Xu YK, Bai YY, Shen DH
- 7653 Update on gut microbiota in gastrointestinal diseases Nishida A, Nishino K, Ohno M, Sakai K, Owaki Y, Noda Y, Imaeda H
- 7665 Vascular complications of pancreatitis Kalas MA, Leon M, Chavez LO, Canalizo E, Surani S

ORIGINAL ARTICLE

Clinical and Translational Research

7674 Network pharmacology and molecular docking reveal zedoary turmeric-trisomes in Inflammatory bowel disease with intestinal fibrosis

Zheng L, Ji YY, Dai YC, Wen XL, Wu SC

Case Control Study

7686 Comprehensive proteomic signature and identification of CDKN2A as a promising prognostic biomarker and therapeutic target of colorectal cancer

Wang QQ, Zhou YC, Zhou Ge YJ, Qin G, Yin TF, Zhao DY, Tan C, Yao SK

Retrospective Cohort Study

7698 Is anoplasty superior to scar revision surgery for post-hemorrhoidectomy anal stenosis? Six years of experience

Weng YT, Chu KJ, Lin KH, Chang CK, Kang JC, Chen CY, Hu JM, Pu TW

Retrospective Study

7708 Short- (30-90 days) and mid-term (1-3 years) outcomes and prognostic factors of patients with esophageal cancer undergoing surgical treatments

Shi MK, Mei YQ, Shi JL



World Journal of Clinical Cases					
Conter	ts Thrice Monthly Volume 10 Number 22 August 6, 2022				
7720	Effectiveness of pulsed radiofrequency on the medial cervical branches for cervical facet joint pain				
	Chang MC, Yang S				
7728	Clinical performance evaluation of O-Ring Halcyon Linac: A real-world study				
	Wang GY, Zhu QZ, Zhu HL, Jiang LJ, Zhao N, Liu ZK, Zhang FQ				
7738	Correlation between the warning symptoms and prognosis of cardiac arrest				
	Zheng K, Bai Y, Zhai QR, Du LF, Ge HX, Wang GX, Ma QB				
7749	Serum ferritin levels in children with attention deficit hyperactivity disorder and tic disorder				
	Tang CY, Wen F				
7760	Application of metagenomic next-generation sequencing in the diagnosis of infectious diseases of the central nervous system after empirical treatment				
	Chen YY, Guo Y, Xue XH, Pang F				
7772	Prognostic role of multiple abnormal genes in non-small-cell lung cancer				
	Yan LD, Yang L, Li N, Wang M, Zhang YH, Zhou W, Yu ZQ, Peng XC, Cai J				
7785	Prospective single-center feasible study of innovative autorelease bile duct supporter to delay adverse events after endoscopic papillectomy				
	Liu SZ, Chai NL, Li HK, Feng XX, Zhai YQ, Wang NJ, Gao Y, Gao F, Wang SS, Linghu EQ				
	Clinical Trials Study				
7794	Performance of Dexcom G5 and FreeStyle Libre sensors tested simultaneously in people with type 1 or 2 diabetes and advanced chronic kidney disease				
	Ólafsdóttir AF, Andelin M, Saeed A, Sofizadeh S, Hamoodi H, Jansson PA, Lind M				
	Observational Study				
7808	Complications of chronic pancreatitis prior to and following surgical treatment: A proposal for classification				
	Murruste M, Kirsimägi Ü, Kase K, Veršinina T, Talving P, Lepner U				
7825	Effects of comprehensive nursing on postoperative complications, mental status and quality of life in patients with glioma				
	Dong H, Zhang XL, Deng CX, Luo B				
	Prospective Study				
7832	Predictors of long-term anxiety and depression in discharged COVID-19 patients: A follow-up study				
	Boyraz RK, Şahan E, Boylu ME, Kırpınar İ				
	META-ANALYSIS				
7844	Same-day single-dose <i>vs</i> large-volume split-dose regimens of polyethylene glycol for bowel preparation: A systematic review and meta-analysis				

Pan H, Zheng XL, Fang CY, Liu LZ, Chen JS, Wang C, Chen YD, Huang JM, Zhou YS, He LP



World Journal of Cl	
conten	Thrice Monthly Volume 10 Number 22 August 6, 202
7859	Rectal nonsteroidal anti-inflammatory drugs, glyceryl trinitrate, or combinations for prophylaxis of post endoscopic retrograde cholangiopancreatography pancreatitis: A network meta-analysis
	Shi QQ, Huang GX, Li W, Yang JR, Ning XY
7872	Effect of celecoxib on improving depression: A systematic review and meta-analysis
	Wang Z, Wu Q, Wang Q
	CASE REPORT
7883	Rectal mature teratoma: A case report
	Liu JL, Sun PL
7890	Antibiotic and glucocorticoid-induced recapitulated hematological remission in acute myeloid leukemia: . case report and review of literature
	Sun XY, Yang XD, Yang XQ, Ju B, Xiu NN, Xu J, Zhao XC
7899	Non-secretory multiple myeloma expressed as multiple extramedullary plasmacytoma with a endobronchial lesion mimicking metastatic cancer: A case report
	Lee SB, Park CY, Lee HJ, Hong R, Kim WS, Park SG
7906	Latamoxef-induced severe thrombocytopenia during the treatment of pulmonary infection: A case report
	Zhang RY, Zhang JJ, Li JM, Xu YY, Xu YH, Cai XJ
7913	Multicentric reticulohistiocytosis with prominent skin lesions and arthritis: A case report
	Xu XL, Liang XH, Liu J, Deng X, Zhang L, Wang ZG
7924	Brainstem abscesses caused by Listeria monocytogenes: A case report
	Wang J, Li YC, Yang KY, Wang J, Dong Z
7931	Primary hypertension in a postoperative paraganglioma patient: A case report
	Wei JH, Yan HL
7936	Long-term survival of gastric mixed neuroendocrine-non-neuroendocrine neoplasm: Two case reports
	Woo LT, Ding YF, Mao CY, Qian J, Zhang XM, Xu N
7944	Percutaneous transforaminal endoscopic decompression combined with percutaneous vertebroplasty i treatment of lumbar vertebral body metastases: A case report
	Ran Q, Li T, Kuang ZP, Guo XH
7950	Atypical imaging features of the primary spinal cord glioblastoma: A case report
	Liang XY, Chen YP, Li Q, Zhou ZW
7960	Resection with limb salvage in an Asian male adolescent with Ewing's sarcoma: A case report
	Lai CY, Chen KJ, Ho TY, Li LY, Kuo CC, Chen HT, Fong YC
7968	Early detection of circulating tumor DNA and successful treatment with osimertinib in thr790met-positiv leptomeningeal metastatic lung cancer: A case report
	Xu LQ, Wang YJ, Shen SL, Wu Y, Duan HZ



	World Journal of Clinical Cas			
Conter	Thrice Monthly Volume 10 Number 22 August 6, 2022			
7973	Delayed arterial symptomatic epidural hematoma on the 14 th day after posterior lumbar interbody fusion: A case report			
	Hao SS, Gao ZF, Li HK, Liu S, Dong SL, Chen HL, Zhang ZF			
7982	Clinical and genetic analysis of nonketotic hyperglycinemia: A case report			
	Ning JJ, Li F, Li SQ			
7989	Ectopic Cushing's syndrome in a patient with metastatic Merkel cell carcinoma: A case report			
	Ishay A, Touma E, Vornicova O, Dodiuk-Gad R, Goldman T, Bisharat N			
7994	Occurrence of MYD88L265P and CD79B mutations in diffuse large b cell lymphoma with bone marrow infiltration: A case report			
	Huang WY, Weng ZY			
8003	Rare case of compartment syndrome provoked by inhalation of polyurethane agent: A case report			
	Choi JH, Oh HM, Hwang JH, Kim KS, Lee SY			
8009	Acute ischemic Stroke combined with Stanford type A aortic dissection: A case report and literature review			
	He ZY, Yao LP, Wang XK, Chen NY, Zhao JJ, Zhou Q, Yang XF			
8018	Compound-honeysuckle-induced drug eruption with special manifestations: A case report			
	Zhou LF, Lu R			
8025	Spontaneous internal carotid artery pseudoaneurysm complicated with ischemic stroke in a young man: A case report and review of literature			
	Zhong YL, Feng JP, Luo H, Gong XH, Wei ZH			
8034	Microcystic adnexal carcinoma misdiagnosed as a "recurrent epidermal cyst": A case report			
	Yang SX, Mou Y, Wang S, Hu X, Li FQ			
8040	Accidental discovery of appendiceal carcinoma during gynecological surgery: A case report			
	Wang L, Dong Y, Chen YH, Wang YN, Sun L			
8045	Intra-ampullary papillary-tubular neoplasm combined with ampullary neuroendocrine carcinoma: A case report			
	Zavrtanik H, Luzar B, Tomažič A			
	LETTER TO THE EDITOR			
8054	Commentary on "Primary orbital monophasic synovial sarcoma with calcification: A case report"			

Tokur O, Aydın S, Karavas E

Contents

Thrice Monthly Volume 10 Number 22 August 6, 2022

ABOUT COVER

Editorial Board Member of World Journal of Clinical Cases, Bennete Aloysius Fernandes, MDS, Professor, Faculty of Dentistry, SEGi University, Kota Damansara 47810, Selangor, Malaysia. drben17@yahoo.com

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: Xu Guo; Production Department Director: Xiang Li; Editorial Office Director: Jin-Lei Wang.

NAME OF JOURNAL	INSTRUCTIONS TO AUTHORS		
World Journal of Clinical Cases	https://www.wignet.com/bpg/gerinfo/204		
ISSN 2307-8960 (online)	GUIDELINES FOR ETHICS DOCUMENTS https://www.wjgnet.com/bpg/GerInfo/287		
LAUNCH DATE	GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH		
April 16, 2013	https://www.wignet.com/bpg/gerinfo/240		
FREQUENCY	PUBLICATION ETHICS		
Thrice Monthly	https://www.wjgnet.com/bpg/GerInfo/288		
EDITORS-IN-CHIEF Bao-Gan Peng, Jerzy Tadeusz Chudek, George Kontogeorgos, Maurizio Serati, Ja Hyeon Ku	PUBLICATION MISCONDUCT https://www.wjgnet.com/bpg/gerinfo/208		
EDITORIAL BOARD MEMBERS	ARTICLE PROCESSING CHARGE		
https://www.wjgnet.com/2307-8960/editorialboard.htm	https://www.wjgnet.com/bpg/gerinfo/242		
PUBLICATION DATE	STEPS FOR SUBMITTING MANUSCRIPTS		
August 6, 2022	https://www.wjgnet.com/bpg/GerInfo/239		
COPYRIGHT	ONLINE SUBMISSION		
© 2022 Baishideng Publishing Group Inc	https://www.f6publishing.com		

© 2022 Baishideng Publishing Group Inc. All rights reserved. 7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA E-mail: bpgoffice@wjgnet.com https://www.wjgnet.com



W J C C World Journal of Clinical Cases

Submit a Manuscript: https://www.f6publishing.com

World J Clin Cases 2022 August 6; 10(22): 8003-8008

DOI: 10.12998/wjcc.v10.i22.8003

ISSN 2307-8960 (online)

CASE REPORT

Rare case of compartment syndrome provoked by inhalation of polyurethane agent: A case report

Jun Ho Choi, Hyun Myung Oh, Jae Ha Hwang, Kwang Seog Kim, Sam Yong Lee

Specialty type: Surgery

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): B, B, B, B Grade C (Good): C Grade D (Fair): 0 Grade E (Poor): 0

P-Reviewer: Apiratwarakul K, Thailand; Aydin S, Turkey; Jian X, China

Received: February 10, 2022 Peer-review started: February 10, 2022 First decision: June 15, 2022 Revised: June 18, 2022 Accepted: July 6, 2022 Article in press: July 6, 2022 Published online: August 6, 2022



Jun Ho Choi, Hyun Myung Oh, Department of Plastic and Reconstructive Surgery, Chonnam National University Hospital, Gwangju 61469, South Korea

Jae Ha Hwang, Kwang Seog Kim, Sam Yong Lee, Department of Plastic and Reconstructive Surgery, Chonnam National University Medical School, Gwangju 61469, South Korea

Corresponding author: Jae Ha Hwang, MD, PhD, Professor, Surgeon, Department of Plastic and Reconstructive Surgery, Chonnam National University Hospital, 42 Jebong-ro, Dong-gu, Gwangju 61469, South Korea. psjhhwang@daum.net

Abstract

BACKGROUND

The most common causes of compartment syndrome in the lower extremities include lower limb fractures, trauma-induced crushing injuries, severe burns, and non-traumatic factors. However, there have been no reports of compartment syndrome secondary to toxic inhalation.

CASE SUMMARY

A 59-year-old man, who lost consciousness after applying polyurethane-based paint on a water tank, was brought to the emergency room. The initial blood test showed apparent rhabdomyolysis. One day later, pain and swelling in both legs were observed, and the physical examination confirmed the presence of compartment syndrome. Double-incision fasciotomy was performed on both legs. Frequent dressings and negative pressure wound treatment were done on both legs, and skin grafting was performed after healthy granulation tissue had been identified. No other complications were observed after treatment. However, symptoms of peroneal neuropathy, particularly limited ankle dorsiflexion and reduced sensation on the lower extremities, were observed.

CONCLUSION

Workers using polyurethane agents should wear gas masks and be evaluated for compartment syndrome and rhabdomyolysis secondary to toxic inhalation.

Key Words: Compartment syndrome; Polyurethanes; Rhabdomyolysis; Hypoxia; Peroneal neuropathies; Case report

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



WJCC | https://www.wjgnet.com

Core Tip: Compartment syndrome secondary to non-traumatic etiology is often diagnostically challenging based solely on history taking and may be misdiagnosed in the absence of comprehensive physical evaluation. Moreover, to date, no study has reported compartment syndrome caused by inhalation toxicity. We report a rare case of compartment syndrome secondary to polyurethane inhalation.

Citation: Choi JH, Oh HM, Hwang JH, Kim KS, Lee SY. Rare case of compartment syndrome provoked by inhalation of polyurethane agent: A case report. *World J Clin Cases* 2022; 10(22): 8003-8008 URL: https://www.wjgnet.com/2307-8960/full/v10/i22/8003.htm DOI: https://dx.doi.org/10.12998/wjcc.v10.i22.8003

INTRODUCTION

According to Matsen, compartment syndrome occurs when increased pressure within a limited space compromises the circulation and function of tissues within that space[1]. It is a medical emergency, that necessitates immediate intervention, to avoid complications, such as muscle ischemia, neuropathy, and necrosis, which may result in limb amputation[2]. Compartment syndrome is a common complication of lower extremity fractures, trauma-induced crush injuries, severe burns, and some non-traumatic conditions[3]. Compartment syndrome secondary to a non-traumatic etiology is difficult to diagnose based on history taking only, and it may be misdiagnosed, based on an incomplete physical evaluation. Moreover, there have been no studies documenting the development of compartment syndrome secondary to polyurethane inhalation.

CASE PRESENTATION

Chief complaints

A 59-year-old man, who lost consciousness after applying polyutherane-based paint to a water tank, was brought to the emergency department.

History of present illness

The patient was found lying prone in the tank one hour after he had entered. He did not wear a mask to protect against the inhalation of harmful chemicals while painting the water tank (a closed space of 32000 L).

History of past illness

The patient denied a history of diseases that could have triggered such a medical condition such as intense physical activities.

Personal and family history

The patient had no previous disease history.

Physical examination

There were no noted signs of trauma in the lower extremities and other regions of the body.

Laboratory examinations

The initial blood test results suggested rhabdomyolysis with an increased serum creatine kinase of 15250 IU/L and myoglobin greater than 20000 IU/L. The blood urea nitrogen and creatinine values remained within the normal range, but the alanine transaminase and aspartate transaminase reached up to 917 and 3765 IU/L, respectively. The electrocardiogram showed sinus tachycardia with nonspecific T wave abnormalities, which indicated an electrolyte imbalance without significant cardiac injuries.

Imaging examinations

No imaging studies were performed.

Zaisbideng® WJCC | https://www.wjgnet.com



DOI: 10.12998/wjcc.v10.i22.8003 Copyright ©The Author(s) 2022.

Figure 1 Clinical photograph showing bilateral lower leg compartment syndrome characterized by tense and painful swelling.



DOI: 10.12998/wjcc.v10.i22.8003 Copyright ©The Author(s) 2022.

Figure 2 Intraoperative photograph of the medial and lateral aspects of both lower limbs after fasciotomy.

FINAL DIAGNOSIS

One day after admission, the patient developed pain and edema of the lower extremities, and the physical examination confirmed the presence of compartment syndrome. It is characterized by pain, pallor, paresthesia, pulselessness, and paralysis, which are typically referred to as the 5Ps of compartment syndrome (Figure 1). The intracompartmental pressure in the lower extremities ranged from 100 to 130 mmHg in all fascial compartments.

TREATMENT

The patient was admitted to the intensive care unit (ICU), and extensive hydration and hyperbaric oxygen therapy were initiated to manage the acute drug intoxication syndrome, accompanied by rhabdomyolysis. No glucocorticoid or dehydration diuretics were administered during the patient's course in ICU.



Baishideng® WJCC | https://www.wjgnet.com



DOI: 10.12998/wjcc.v10.i22.8003 Copyright ©The Author(s) 2022.

Figure 3 Meshed split-thickness skin graft was used to cover the defect area.

Bilateral lower extremity fasciotomy was performed on the lateral and medial aspects of the extremities to relieve the pressure in the anterior, lateral, superficial posterior, and deep posterior compartments (Figure 2). The pain, pallor, and paresthesia improved in both lower extremities postoperatively. Frequent dressing changes using betadine-soaked gauze and weekly serial debridement were performed for wound management.

One month later, the dressing method was shifted to negative-pressure wound therapy. Growth of healthy granulation tissue within the wound was observed three months later, and meshed splitthickness skin grafting was performed (Figure 3).

OUTCOME AND FOLLOW-UP

The patient showed no other signs of compartment syndrome. However, he developed symptoms of peroneal neuropathy, particularly limited ankle dorsiflexion and sensory loss in areas of the lower extremities innervated by the peroneal nerve. Nerve conduction studies were performed to evaluate the motor and sensory functions of the left and right lower extremities (Table 1). The patient's symptoms gradually improved, but complete recovery of the nerve functions has not been achieved. Therefore, further physical treatment is required.

DISCUSSION

Polyurethane polymers are highly stable materials that are primarily used in fabrics and paints[4]. Due to its high risk of respiratory toxicity, routine room ventilation or working outside is advised when using polyurethane polymers^[5]. Polyurethane inhalation within a closed space without a protective mask possibly resulted in the loss of consciousness and rhabdomyolysis in this patient.

Rhabdomyolysis is associated with traumatic and non-traumatic etiologies, including infections, drugs, and toxin inhalation[6]. Carbon monoxide (CO), one of the most common environmental toxins, has reportedly caused various medical conditions, including muscle injury and consequent rhabdomyolysis[7]. In this case, the rhabdomyolysis was attributed to polyurethane inhalation-induced injury, which was similar to that associated with CO intoxication. However, a similar clinical presentation has not been reported in previous studies. The underlying mechanism behind polyurethane-induced muscle injury remains unknown. Melandri et al[8] presented a case of prolonged hypoxia due to opiate overdose, resulting in rhabdomyolysis and myocardial damage. This was similar to the present case in that toxic inhalation induced hypoxia, rhabdomyolysis, and compartment syndrome. Acute compartment syndrome of the extremities most commonly results from traumatic injuries, such as long bone fractures, severe burns, and crush injuries[9]. Additional risk factors include age, sex, and bleeding tendency[10]. It is difficult to diagnose, particularly in patients with a vague history and no identifiable cause. In the present case, the causal relationship between polyurethane inhalation and compartment syndrome was not established. However, other attributable causes were not identified for the patient's



WJCC https://www.wjgnet.com

Table 1 Electrodiagnostic testing results. Initial test results done right after the fasciotomy suggested that the patient developed both peroneal and tibial neuropathy

Needle electromyography			Initial	After eight months
Right lower limb	Extensor digitorumBrevis	Spontaneous activity	Abnormal activity	Silent
		MUAPs	No MUAPs	No MUAPs
	Abductor hallucis	Spontaneous activity	Abnormal activity	Abnormal activity
		MUAPs	No MUAPs	No MUAPs
	Tibialis anterior	Spontaneous activity	-	Silent
		MUAPs	-	DIP, normal MUAPs
	Peroneus longus	Spontaneous activity	-	Abnormal activity
		MUAPs	-	PIP, normal MUAPs
	Gastrocnemius (medial head)	Spontaneous activity	-	Silent
		MUAPs	-	DIP, normal MUAPs
Left lower limb	Extensor digitorumbrevis	Spontaneous activity	Abnormal activity	Silent
		MUAPs	No MUAPs	No MUAPs
	Abductor hallucis	Spontaneous activity	Abnormal activity	Abnormal activity
		MUAPs	No MUAPs	DIP, normal MUAPs
	Tibialis anterior	Spontaneous activity	-	Abnormal activity
		MUAPs	-	DIP, normal MUAPs
	Peroneus longus	Spontaneous activity	-	Silent
		MUAPs	-	PIP, normal MUAPs
	Gastrocnemius (medial head)	Spontaneous activity	-	Abnormal activity
		MUAPs	-	DIP, polyphasic MUAPs

MUAP: Motor unit action potential; DIP: Discrete interference pattern; PIP: Partial interference pattern. The full test was not completed due to the wound status. Electromyography done eight months after suggested that the patient developed both incomplete peroneal and tibial neuropathy. Motor unit action potential and conduction study indicated that the left lower limb had some regeneration evidence, but no significant changes were observed compared to the previous test.

disease. Therefore, toxic inhalation was likely involved in the development of rhabdomyolysis and compartment syndrome[11]. Polyurethane-induced asphyxiation likely induced prolonged hypoxia and consequent muscle injury[12].

The accurate diagnosis and prompt management of acute compartment syndrome are important to avoid permanent neurological and functional injuries of the extremities, fatal necrosis, and even amputation. Eliminating the probable cause by performing an emergency reduction of the long bone fractures, followed by immediate fasciotomy (the only available treatment for compartment syndrome), is indicated in patients suspected of acute compartment syndrome[13,14]. Double-incision fasciotomy is the most frequently used technique because it allows access to all four compartments of the lower extremities[15]. In the present case, an immediate fasciotomy was performed at the time of consultation for surgical intervention. Although nerve injury was not observed intraoperatively, the patient developed peroneal neuropathy later in the course of treatment.

CONCLUSION

Workers, using polyurethane agents in confined spaces, must wear protective gear, including a gas mask. A thorough physical evaluation is essential to avoid a missed diagnosis and to exclude toxic inhalation-induced rhabdomyolysis in patients, presenting with compartment syndrome. Considering other diagnoses and radiological evaluation findings is an appealing option, but the subsequent delay results in unwanted complications. Therefore, rhabdomyolysis and compartment syndrome should be considered in the differential diagnosis, and fasciotomy should be the preferred treatment option in patients with the aforementioned clinical presentation.

Baishidena® WJCC | https://www.wjgnet.com

FOOTNOTES

Author contributions: Choi JH and Oh HM contributed to manuscript writing and data collection; Hwang JH and Kim KS contributed to editing and conceptualization; Lee SY contributed to supervision; all authors have read and approved the final manuscript.

Informed consent statement: Informed written consent was obtained from the patient for publication of this report and any accompanying images.

Conflict-of-interest statement: The authors declare that they have no conflict of interest to disclose.

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 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: South Korea

ORCID number: Jun Ho Choi 0000-0002-4848-517X; Hyun Myung Oh 0000-0002-1035-6057; Jae Ha Hwang 0000-0001-6992-8067; Kwang Seog Kim 0000-0002-6766-4640; Sam Yong Lee 0000-0002-3185-2519.

S-Editor: Zhang H L-Editor: A P-Editor: Zhang H

REFERENCES

- Matsen FA 3rd, Winquist RA, Krugmire RB Jr. Diagnosis and management of compartmental syndromes. J Bone Joint Surg Am 1980; 62: 286-291 [PMID: 7358759]
- 2 Rush DS, Frame SB, Bell RM, Berg EE, Kerstein MD, Haynes JL. Does open fasciotomy contribute to morbidity and mortality after acute lower extremity ischemia and revascularization? *J Vasc Surg* 1989; 10: 343-350 [PMID: 2778898 DOI: 10.1067/mva.1989.14338]
- 3 McQueen MM, Gaston P, Court-Brown CM. Acute compartment syndrome. Who is at risk? J Bone Joint Surg Br 2000; 82: 200-203 [PMID: 10755426]
- 4 Singh H, Jain AK. Ignition, combustion, toxicity, and fire retardancy of polyurethane foams: a comprehensive review. *J Appl Polym Sci* 2009; **111**: 1115-1143 [DOI: 10.1002/app.29131]
- 5 Mckenna ST, Hull TR. The fire toxicity of polyurethane foams. Fire Sci Rev 2016; 5: 1-27 [DOI: 10.1186/s40038-016-0012-3]
- 6 Huerta-Alardín AL, Varon J, Marik PE. Bench-to-bedside review: Rhabdomyolysis -- an overview for clinicians. Crit Care 2005; 9: 158-169 [PMID: 15774072 DOI: 10.1186/cc2978]
- 7 Harper A, Croft-Baker J. Carbon monoxide poisoning: undetected by both patients and their doctors. *Age Ageing* 2004; 33: 105-109 [PMID: 14960423 DOI: 10.1093/ageing/afh038]
- 8 Melandri R, Re G, Lanzarini C, Rapezzi C, Leone O, Zele I, Rocchi G. Myocardial damage and rhabdomyolysis associated with prolonged hypoxic coma following opiate overdose. *J Toxicol Clin Toxicol* 1996; 34: 199-203 [PMID: 8618254 DOI: 10.3109/15563659609013770]
- 9 Grottkau BE, Epps HR, Di Scala C. Compartment syndrome in children and adolescents. J Pediatr Surg 2005; 40: 678-682 [PMID: 15852278 DOI: 10.1016/j.jpedsurg.2004.12.007]
- 10 Mubarak SJ, Hargens AR. Acute compartment syndromes. Surg Clin North Am 1983; 63: 539-565 [PMID: 6346542 DOI: 10.1016/s0039-6109(16)43030-6]
- 11 Allison RC, Bedsole DL. The other medical causes of rhabdomyolysis. *Am J Med Sci* 2003; **326**: 79-88 [PMID: 12920439 DOI: 10.1097/00000441-200308000-00005]
- 12 Paletta CE, Lynch R, Knutsen AP. Rhabdomyolysis and lower extremity compartment syndrome due to influenza B virus. *Ann Plast Surg* 1993; **30**: 272-273 [PMID: 8494311 DOI: 10.1097/0000637-199303000-00013]
- 13 Styf J, Wiger P. Abnormally increased intramuscular pressure in human legs: comparison of two experimental models. J Trauma 1998; 45: 133-139 [PMID: 9680026 DOI: 10.1097/00005373-199807000-00028]
- 14 Sheridan GW, Matsen FA 3rd. Fasciotomy in the treatment of the acute compartment syndrome. *J Bone Joint Surg Am* 1976; 58: 112-115 [PMID: 1249096]
- 15 Singh K, Bible JE, Mir HR. Single and Dual-Incision Fasciotomy of the Lower Leg. JBJS Essent Surg Tech 2015; 5: e25 [PMID: 30405959 DOI: 10.2106/JBJS.ST.O.00007]

Zaishideng® WJCC | https://www.wjgnet.com



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

