

World Journal of *Clinical Cases*

World J Clin Cases 2021 April 6; 9(10): 2160-2418



Contents

Thrice Monthly Volume 9 Number 10 April 6, 2021

MINIREVIEWS

- 2160 Tertiary peritonitis: A disease that should not be ignored
Marques HS, Araújo GRL, da Silva FAF, de Brito BB, Versiani PVD, Caires JS, Milet TC, de Melo FF
- 2170 SARS-CoV-2, surgeons and surgical masks
Khalil MI, Banik GR, Mansoor S, Alqahtani AS, Rashid H

ORIGINAL ARTICLE

Case Control Study

- 2181 Igaratimod promotes transformation of mononuclear macrophages in elderly patients with rheumatoid arthritis by nuclear factor- κ B pathway
Liu S, Song LP, Li RB, Feng LH, Zhu H

Retrospective Study

- 2192 Factors associated with overall survival in early gastric cancer patients who underwent additional surgery after endoscopic submucosal dissection
Zheng Z, Bu FD, Chen H, Yin J, Xu R, Cai J, Zhang J, Yao HW, Zhang ZT
- 2205 Epidemiological and clinical characteristics of 65 hospitalized patients with COVID-19 in Liaoning, China
Zhang W, Ban Y, Wu YH, Liu JY, Li XH, Wu H, Li H, Chen R, Yu XX, Zheng R
- 2218 Comprehensive clinicopathologic characteristics of intraabdominal neurogenic tumors: Single institution experience
Simsek C, Uner M, Ozkara F, Akman O, Akyol A, Kav T, Sokmensuer C, Gedikoglu G
- 2228 Distribution and drug resistance of pathogens in burn patients in China from 2006 to 2019
Chen H, Yang L, Cheng L, Hu XH, Shen YM

Observational Study

- 2238 Impact of simethicone on bowel cleansing during colonoscopy in Chinese patients
Zhang H, Liu J, Ma SL, Huang ML, Fan Y, Song M, Yang J, Zhang XX, Song QL, Gong J, Huang PX, Zhang H

Prospective Study

- 2247 Effect of suspension training on neuromuscular function, postural control, and knee kinematics in anterior cruciate ligament reconstruction patients
Huang DD, Chen LH, Yu Z, Chen QJ, Lai JN, Li HH, Liu G

CASE REPORT

- 2259 Turner syndrome with positive SRY gene and non-classical congenital adrenal hyperplasia: A case report
He MN, Zhao SC, Li JM, Tong LL, Fan XZ, Xue YM, Lin XH, Cao Y

- 2268** Mechanical thrombectomy for acute occlusion of the posterior inferior cerebellar artery: A case report
Zhang HB, Wang P, Wang Y, Wang JH, Li Z, Li R
- 2274** Bilateral retrocorneal hyaline scrolls secondary to asymptomatic congenital syphilis: A case report
Jin YQ, Hu YP, Dai Q, Wu SQ
- 2281** Recurrent undifferentiated embryonal sarcoma of the liver in adult patient treated by pembrolizumab: A case report
Yu XH, Huang J, Ge NJ, Yang YF, Zhao JY
- 2289** Adult onset type 2 familial hemophagocytic lymphohistiocytosis with *PRF1* c.65delC/c.163C>T compound heterozygous mutations: A case report
Liu XY, Nie YB, Chen XJ, Gao XH, Zhai LJ, Min FL
- 2296** Salvage of vascular graft infections *via* vacuum sealing drainage and rectus femoris muscle flap transposition: A case report
Zhang P, Tao FL, Li QH, Zhou DS, Liu FX
- 2302** Innovative chest wall reconstruction with a locking plate and cement spacer after radical resection of chondrosarcoma in the sternum: A case report
Lin CW, Ho TY, Yeh CW, Chen HT, Chiang IP, Fong YC
- 2312** Changes in sleep parameters following biomimetic oral appliance therapy: A case report
Singh GD, Kherani S
- 2320** Bone remodeling in sigmoid sinus diverticulum after stenting for transverse sinus stenosis in pulsatile tinnitus: A case report
Qiu XY, Zhao PF, Ding HY, Li XS, Lv H, Yang ZH, Gong SS, Jin L, Wang ZC
- 2326** Prolonged use of bedaquiline in two patients with pulmonary extensively drug-resistant tuberculosis: Two case reports
Gao JT, Xie L, Ma LP, Shu W, Zhang LJ, Ning YJ, Xie SH, Liu YH, Gao MQ
- 2334** Low-grade mucinous appendiceal neoplasm mimicking an ovarian lesion: A case report and review of literature
Borges AL, Reis-de-Carvalho C, Chorão M, Pereira H, Djokovic D
- 2344** Granulomatosis with polyangiitis presenting as high fever with diffuse alveolar hemorrhage and otitis media: A case report
Li XJ, Yang L, Yan XF, Zhan CT, Liu JH
- 2352** Primary intramedullary melanoma of lumbar spinal cord: A case report
Sun LD, Chu X, Xu L, Fan XZ, Qian Y, Zuo DM
- 2357** Proliferative glomerulonephritis with monoclonal immunoglobulin G deposits in a young woman: A case report
Xu ZG, Li WL, Wang X, Zhang SY, Zhang YW, Wei X, Li CD, Zeng P, Luan SD

- 2367** *Nocardia cyriacigeorgica* infection in a patient with pulmonary sequestration: A case report
Lin J, Wu XM, Peng MF
- 2373** Long-term control of melanoma brain metastases with co-occurring intracranial infection and involuntary drug reduction during COVID-19 pandemic: A case report
Wang Y, Lian B, Cui CL
- 2380** Solitary bone plasmacytoma of the upper cervical spine: A case report
Li RJ, Li XF, Jiang WM
- 2386** Two-stage transcrestal sinus floor elevation-insight into replantation: Six case reports
Lin ZZ, Xu DQ, Ye ZY, Wang GG, Ding X
- 2394** Programmed cell death protein-1 inhibitor combined with chimeric antigen receptor T cells in the treatment of relapsed refractory non-Hodgkin lymphoma: A case report
Niu ZY, Sun L, Wen SP, Song ZR, Xing L, Wang Y, Li JQ, Zhang XJ, Wang FX
- 2400** Pancreatic cancer secondary to intraductal papillary mucinous neoplasm with collision between gastric cancer and B-cell lymphoma: A case report
Ma YH, Yamaguchi T, Yasumura T, Kuno T, Kobayashi S, Yoshida T, Ishida T, Ishida Y, Takaoka S, Fan JL, Enomoto N
- 2409** Acquired haemophilia in patients with malignant disease: A case report
Krašek V, Kotnik A, Zavrtanik H, Klen J, Zver S

ABOUT COVER

Editorial Board Member of *World Journal of Clinical Cases*, Deb Sanjay Nag, Senior Consultant, Department of Anaesthesiology, Tata Main Hospital, C-Road (West), Bistupur, Jamshedpur 831 001, India. ds.nag@tatasteel.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 indexed in Science Citation Index Expanded (also known as SciSearch®), Journal Citation Reports/Science Edition, Scopus, PubMed, and PubMed Central. The 2020 Edition of Journal Citation Reports® cites the 2019 impact factor (IF) for WJCC as 1.013; IF without journal self cites: 0.991; Ranking: 120 among 165 journals in medicine, general and internal; and Quartile category: Q3. The WJCC's CiteScore for 2019 is 0.3 and Scopus CiteScore rank 2019: General Medicine is 394/529.

RESPONSIBLE EDITORS FOR THIS ISSUE

Production Editor: Yan-Xia Xing; **Production Department Director:** Yun-Xiaoqian Wu; **Editorial Office Director:** Jin-Li 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

Dennis A Bloomfield, Sandro Vento, Bao-Gan Peng

EDITORIAL BOARD MEMBERS

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

PUBLICATION DATE

April 6, 2021

COPYRIGHT

© 2021 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>



Salvage of vascular graft infections via vacuum sealing drainage and rectus femoris muscle flap transposition: A case report

Peng Zhang, Fu-Lin Tao, Qing-Hu Li, Dong-Sheng Zhou, Fan-Xiao Liu

ORCID number: Peng Zhang 0000-0002-1641-0851; Fu-Lin Tao 0000-0002-4680-9986; Qing-Hu Li 0000-0002-1599-7996; Dong-Sheng Zhou 0000-0001-7621-0758; Fan-Xiao Liu 0000-0002-1412-849X.

Author contributions: Zhang P, Zhou DS, and Tao FL were the patient's respiratory physicians; Li QH and Liu FX performed the radiological diagnosis and contributed to manuscript drafting; Li QH and Liu FX performed the pathological diagnosis and contributed to manuscript drafting; Zhang P, Tao FL, Li QH, Zhou DS, and Liu FX performed the literature review and contributed to manuscript drafting; Zhang P and Liu FX were responsible for the revision of the manuscript for important intellectual content; all authors issued final approval for the version to be submitted.

Supported by Shandong Provincial Natural Science Foundation, No. ZR2013HM069; Shandong Key R&D Program, No. 2017GSF218089; and China Scholarship Council, No. 201808080126.

Informed consent statement: Written informed consent was obtained from the patient for publication of case details and images.

Peng Zhang, Fu-Lin Tao, Qing-Hu Li, Dong-Sheng Zhou, Fan-Xiao Liu, Department of Orthopaedics, Shandong Provincial Hospital Affiliated to Shandong First Medical University, Jinan 250021, Shandong Province, China

Corresponding author: Fan-Xiao Liu, MD, Attending Doctor, Doctor, Research Fellow, Department of Orthopaedics, Shandong Provincial Hospital Affiliated to Shandong First Medical University, No. 324 Qingwuwei Road, Jinan 250021, Shandong Province, China. woshi631@126.com

Abstract

BACKGROUND

The management of vascular graft infections continues to be a significant challenge in a clinical situation. The aim of this report is to illustrate the novel vacuum sealing drainage (VSD) technique and rectus femoris muscle flap transposition for vascular graft infections, and to evaluate the prospective of future testing of this surgical procedure.

CASE SUMMARY

We report the case of a 32-year-old male patient, who presented a severe infected groin wound with biological vascular graft *Acinetobacter baumannii* infection resulting in extensive graft exposure. Using the VSD and muscle flap transposition, the groin wound and vascular graft infection were finally treated successfully.

CONCLUSION

Our case report highlights that VSD technique and rectus femoris muscle flap transposition could be considered in patients presenting with a severe infected groin wound with biological vascular graft *Acinetobacter baumannii* infection resulting in extensive graft exposure, especially in consideration of treatable conditions.

Key Words: Vascular graft; Infection; Muscle flap transposition; Rectus femoris muscle flap; Vacuum sealing drainage; Case report; Trauma

©The Author(s) 2021. Published by Baishideng Publishing Group Inc. All rights reserved.

Conflict-of-interest statement: The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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: <http://creativecommons.org/licenses/by-nc/4.0/>

Manuscript source: Unsolicited manuscript

Specialty type: Medicine, research and experimental

Country/Territory of origin: China

Peer-review report's scientific quality classification

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

Received: October 11, 2020

Peer-review started: October 11, 2020

First decision: December 13, 2020

Revised: December 23, 2020

Accepted: January 12, 2021

Article in press: January 12, 2021

Published online: April 6, 2021

P-Reviewer: Gupta SK

S-Editor: Gao CC

L-Editor: Wang TQ

P-Editor: Yuan YY

Core Tip: Artificial vascular graft infected with *Acinetobacter baumannii* is extremely rare in the clinic and continues to be a significant challenge for clinicians. Vacuum sealing drainage technique and rectus femoris muscle flap transposition are of great value in patients presenting with a severe infected groin wound with biological vascular graft *Acinetobacter baumannii* infection resulting in graft exposure extensively.

Citation: Zhang P, Tao FL, Li QH, Zhou DS, Liu FX. Salvage of vascular graft infections via vacuum sealing drainage and rectus femoris muscle flap transposition: A case report. *World J Clin Cases* 2021; 9(10): 2296-2301

URL: <https://www.wjgnet.com/2307-8960/full/v9/i10/2296.htm>

DOI: <https://dx.doi.org/10.12998/wjcc.v9.i10.2296>

INTRODUCTION

Vascular graft infection resulting from injury is a rare involving in the femoral region. It remains one of the most challenging complications in vascular trauma surgery. The gradual and irreversible deterioration of the vessel wall is the most serious issue on the conservative treatment of major vascular graft infections, significantly increasing bleeding risk^[1-3].

Active wound treatment with vacuum sealing drainage (VSD) therapy is considered a very important strategy to accelerate wound healing and improve its prognosis^[4,5]. Several studies demonstrated the excellent performance in the use of muscle flaps for treating chronically wound beds infected with various pathogenic organisms^[6-8].

In the presented study, we report a patient who suffered from a severe vascular graft *Acinetobacter baumannii* infection and was cured successfully by using VSD to cover the infected wound and the rectus femoris muscle flap transposition is reported to share our experience with vascular graft salvage in the treatment of peripheral vascular graft infections involving the groin.

CASE PRESENTATION

Chief complaints

Vascular graft infections for 2 wk.

History of present illness

A 32-year-old male patient was transferred to our hospital because of hip and lower limb injuries caused by heavy objects. The initial diagnosis was left femoral artery defect injury and lower limb injuries. The left femoral artery defect injury was treated by anastomosis with artificial vascular graft (approximately 10 cm in length) and lower limbs injuries were managed using femoral external fixation. After 14 d, a recurrent deep right wound developed, with an exposure of the artificial vascular graft at the distal anastomosis level and underlying tissue necrosis. His family history and past history had nothing notable.

History of past illness

The patient had no major trauma or damage to the blood vessels before.

Personal and family history

There is nothing special about the patient's personal and family history.

Physical examination

In the physical examination, the external fixator was firmly fixed. An obvious severe inguinal infection and extensive exposure of an artificial vascular graft (approximately 3.5 cm in length) that was not embedded in the surrounding tissues, with underlying tissue necrosis, were observed. The peripheral sensation of the left lower limb was normal, the peripheral blood supply of left lower limb was good, and left dorsalis



pedis artery and posterior tibial artery pulsation was touched.

Laboratory examinations

Repeated bacteriological cultures were positive for *Acinetobacter baumannii*.

Imaging examinations

The first computed tomography angiography was performed in another hospital, which revealed that the left femoral artery defect injury was repaired by anastomosis with an artificial vascular graft (Figure 1).

FINAL DIAGNOSIS

Based on imaging findings and the pathogenic microorganism identified, we finally diagnosed the patient with an obvious severe inguinal infection caused by *Acinetobacter baumannii* and extensive exposure of the artificial vascular graft (approximately 3.5 cm in length) that was not embedded in the surrounding tissues.

TREATMENT

The artificial vascular graft was completely excised and the blood flow was unimpeded fortunately (Video). After initial debridement of the perivascular necrotic tissue, a continuous VSD device of 125 mmHg (17 kPa) was applied in the inguinal wound. A silicon-based dressing was used for coverage of the visible graft material and native artery in the wound; regular changes of the dressings were usually done in the ward (Figure 2).

OUTCOME AND FOLLOW-UP

Two weeks later, the wound was closed to protect both the anastomosis and the artificial vascular graft using rectus femoris muscle flap transposition. The large infected surgical wound was filled with a muscle flap adjacent to the biological graft and no bleeding was detected from both the anastomosis and the arterial wall. We did not add any antibiotic for *Acinetobacter baumannii* infection because of the antibiotic resistance. The muscle flap survived and the wound of the patient at risk healed successfully after 3 wk.

DISCUSSION

Vascular graft infection due to injury rarely involves the femoral region. It remains one of the most challenging complications in vascular trauma surgery. Local muscle flap transposition demonstrated the promising performance in the treatment of low-grade infections in the early stage but carried an unreasonable risk of failure in the high-grade infections sustained by high-virulence bacteria^[1-3,5,9-11].

In our opinion, the careful analysis of patient's medical history is particularly important. Infection occurring after the left femoral artery surgical revascularization, culture positivity for *Acinetobacter baumannii* and methicillin-resistant species, and exposure of the arterial-graft anastomosis were poor prognostic indicators for graft preservation. Furthermore, the wound infection in the groin had exposed the anastomosis and failed prior debridement and antibiotic treatment. Moreover, due to the poor general condition of the wound infected by *Acinetobacter baumannii*, surgeries including VSD and muscle flap transposition were not conducted simultaneously. Several studies have revealed a significantly increased risk for graft infection in the groin when multiple repeated surgeries were conducted^[12-14].

Previous studies have reported many risk factors for vascular graft infections, such as groin incisions, wound infections, and comorbidities. A retrospective study^[15] involving 39 of 438 patients with a vascular graft infection demonstrated that renal insufficiency, hemorrhage, incisional surgical site infections, and longer procedure time could increase the risk factor for vascular graft infections. A retrospective and descriptive study^[16] including 223 patients receiving abdominal or lower extremity



Figure 1 Computed tomography angiography. The left femoral artery defect injury was repaired by anastomosis with an artificial vascular graft.



Figure 2 A severe inguinal wound infected with *Acinetobacter baumannii* at 2 wk after surgery. The graft infection was treated by the vacuum sealing drainage (VSD) procedure (negative pressure wound therapy with 125 mmHg was commenced). A: Preoperative appearance; B: The graft was uncovered for a distance of 3.5 cm after the VSD procedure; C: The artificial graft was exposed in the right groin region and the wound revised by rectus femoris muscle flap transposition; D: The muscle flap survived and the wound of the patient at risk healed successfully after 3 wk.

revascularization surgery identified risk factors for vascular graft infections and revealed that diabetes mellitus, hemoglobin A1c more than 7.0, blood glucose more than 180 mg/dL, and lack of mobility were preoperative risk factors; perioperative hypoxemia and hemostatic agents were intraoperative factors; admission to skilled nursing facility or acute rehabilitation facility and unscheduled clinic visits were postoperative factors. The warm, wet environment in the groin area combined with innumerable skin folds leads to a high burden of bacteria, which makes deep perivascular infected groin wounds particularly challenging to heal^[17,18]. VSD strategy and graft preservation had been warned in case of *Acinetobacter baumannii* infection and sepsis; however, the wound of our patient at risk healed successfully. In our case, the initial operation was conducted to reduce infection of the groin wound and vascular graft. Our surgical team had long-standing experience in the treatment of various wounds by using the VSD method, which can be useful in the prevention of peripheral arterial injury in certain challenging cases and in the development of a

hybrid approach.

To our knowledge, active wound treatment with VSD therapy is considered a vital important modality to accelerate wound healing and improve prognosis. Selective adjunctive strategies including muscle flap coverage probably contributed to the cover of dead space, and a decreased time of wound healing and risk of recurrent infections^[4]. The muscle flap combined with VSD therapy can be useful for speeding up wound healing^[5].

Several studies demonstrated the excellent performance in the use of muscle flaps for treating chronically wound beds infected with various pathogenic organisms^[6-8]. These flaps have been shown to reduce healing time, lower wound bed bacterial count, improve antibiotic delivery, and obliterate dead space, thus decreasing the possibility of recurrent infection. In the present case, the muscle flap coverage was used for stable wound coverage regardless of the fate of the graft.

In addition to aggressive serial debridement and VSD, the rectus femoris muscle flap provided the best solution to promote healing of the infected field in this case. While the underlying mechanisms and biological effects of the muscle flap on the injured vessel wall remain to be proven, it is possible conduct trials with this technique to significantly improve limb salvage rates and avoid the related requirement to resort to extra-anatomic bypass, which carries high morbidity and mortality. In our opinion, with multidisciplinary treatment of malnutrition, infection, and local wound coverage along with the creative use of muscle flap closures, improved graft salvage rates and markedly increased limb salvage rates can be achieved.

CONCLUSION

This case highlights that VSD technique and rectus femoris muscle flap transposition could be considered in patients presenting with a severe infected groin wound with *Acinetobacter baumannii* biological vascular graft infection resulting in extensive graft exposure, especially in consideration of treatable conditions.

REFERENCES

- 1 **Zetrenne E**, McIntosh BC, McRae MH, Gusberg R, Evans GR, Narayan D. Prosthetic vascular graft infection: a multi-center review of surgical management. *Yale J Biol Med* 2007; **80**: 113-121 [PMID: 18299723]
- 2 **Zetrenne E**, Wirth GA, McIntosh BC, Evans GR, Narayan D. Managing extracavitary prosthetic vascular graft infections: a pathway to success. *Ann Plast Surg* 2006; **57**: 677-682 [PMID: 17122558 DOI: 10.1097/01.sap.0000226928.10734.ae]
- 3 **Armstrong PA**, Back MR, Bandyk DF, Johnson BL, Shames ML. Selective application of sartorius muscle flaps and aggressive staged surgical debridement can influence long-term outcomes of complex prosthetic graft infections. *J Vasc Surg* 2007; **46**: 71-78 [PMID: 17606124 DOI: 10.1016/j.jvs.2007.02.058]
- 4 **Illig KA**, Alkon JE, Smith A, Rhodes JM, Keefer A, Doyle A, Serletti J, Shortell CK, Davies MG, Green RM. Rotational muscle flap closure for acute groin wound infections following vascular surgery. *Ann Vasc Surg* 2004; **18**: 661-668 [PMID: 15599623 DOI: 10.1007/s10016-004-0105-7]
- 5 **Seify H**, Moyer HR, Jones GE, Busquets A, Brown K, Salam A, Losken A, Culbertson J, Hester TR. The role of muscle flaps in wound salvage after vascular graft infections: the Emory experience. *Plast Reconstr Surg* 2006; **117**: 1325-1333 [PMID: 16582808 DOI: 10.1097/01.prs.0000204961.32022.ab]
- 6 **De Santis F**, Chaves Brait CM, Caravelli G, Pompei S, Di Cintio V. Salvage of infected vascular graft via 'perivascular venous banding' technique coupled with rectus abdominis myocutaneous muscle flap transposition. *Vascular* 2013; **21**: 17-22 [PMID: 22375043 DOI: 10.1258/vasc.2011.cr0286]
- 7 **Herrera FA**, Kohanzadeh S, Nasseri Y, Kansal N, Owens EL, Bodor R. Management of vascular graft infections with soft tissue flap coverage: improving limb salvage rates--a veterans affairs experience. *Am Surg* 2009; **75**: 877-881 [PMID: 19886126 DOI: 10.1177/000313480907501003]
- 8 **Andersson S**, Monsen C, Ascuitto G, Acosta S. EndoVAC hybrid therapy for salvage of patients with infected femoral artery reconstructions. *Anaesthesiol Intensive Ther* 2019; **51**: 112-120 [PMID: 31268272 DOI: 10.5114/ait.2019.86276]
- 9 **Evans GR**, Francel TJ, Manson PN. Vascular prosthetic complications: success of salvage with muscle-flap reconstruction. *Plast Reconstr Surg* 1993; **91**: 1294-1302 [PMID: 8497530 DOI: 10.1097/00006534-199306000-00016]
- 10 **Dacey LJ**, Miett TO, Huntsman WT, Colen LB, Schned AR, McDaniel MD. Efficacy of muscle flaps in the treatment of prosthetic vascular graft infections. *J Surg Res* 1988; **44**: 566-572 [PMID: 3374120 DOI: 10.1016/0022-4804(88)90163-1]

- 11 **Maser B**, Vedder N, Rodriguez D, Johansen K. Sartorius myoplasty for infected vascular grafts in the groin. Safe, durable, and effective. *Arch Surg* 1997; **132**: 522-5; discussion 525 [PMID: [9161396](#) DOI: [10.1001/archsurg.1997.01430290068013](#)]
- 12 **Russell RC**, Graham DR, Feller AM, Zook EG, Mathur A. Experimental evaluation of the antibiotic carrying capacity of a muscle flap into a fibrotic cavity. *Plast Reconstr Surg* 1988; **81**: 162-170 [PMID: [3336647](#) DOI: [10.1097/00006534-198802000-00003](#)]
- 13 **Daigeler A**, Dodic T, Awiszus F, Schneider W, Fansa H. Donor-site morbidity of the pedicled rectus femoris muscle flap. *Plast Reconstr Surg* 2005; **115**: 786-792 [PMID: [15731680](#) DOI: [10.1097/01.prs.0000152422.64505.2a](#)]
- 14 **Depuydt K**, Boeckx W, D'Hoore A. The pedicled tensor fasciae latae flap as a salvage procedure for an infected abdominal mesh. *Plast Reconstr Surg* 1998; **102**: 187-190 [PMID: [9655426](#) DOI: [10.1097/00006534-199807000-00031](#)]
- 15 **Anagnostopoulos A**, Ledergerber B, Kuster SP, Scherrer AU, Näf B, Greiner MA, Rancic Z, Kobe A, Bettex D, Hasse B; VASGRA Cohort Study. Inadequate Perioperative Prophylaxis and Postsurgical Complications After Graft Implantation Are Important Risk Factors for Subsequent Vascular Graft Infections: Prospective Results From the Vascular Graft Infection Cohort Study. *Clin Infect Dis* 2019; **69**: 621-630 [PMID: [30395220](#) DOI: [10.1093/cid/ciy956](#)]
- 16 **Ratliff CR**, Strider D, Flohr T, Moses D, Rovnyak V, Armatas J, Johnson J, Okerlund A, Baldwin M, Lawson M, Fuhrmeister S, Tracci MC, Upchurch GR, Cherry KJ. Vascular Graft Infection: Incidence and Potential Risk Factors. *J Wound Ostomy Continence Nurs* 2017; **44**: 524-527 [PMID: [29117077](#) DOI: [10.1097/WON.0000000000000376](#)]
- 17 **Masaki F**, Shuhei Y, Riko K. Wound salvage with a fasciocutaneous flap after artificial vascular graft infection. *Plast Reconstr Surg* 2008; **121**: 1863-1864 [PMID: [18454025](#) DOI: [10.1097/PRS.0b013e31816b1504](#)]
- 18 **Herrera FA**, Easter D, Dobke M. Management of vascular graft infections with soft tissue coverage. *J Surg Educ* 2008; **65**: 176-181 [PMID: [18571129](#) DOI: [10.1016/j.jsurg.2007.12.003](#)]



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>

