Role of modified Eloesser flap in the treatment of bronchopleural fistula caused by pulmonary coccidioidomycosis

Orlando Garner,¹ Alfredo Iardino,¹ Ana Ramirez,¹ Yasir Ahmed²

¹Department of Internal Medicine, Texas Tech University at the Permian Basin, Odessa, Texas, USA

²Department of Infectious Disease, Texas Tech University of Health Science Center at the Permian Basin, Odessa, Texas, USA

Correspondence to
Dr Alfredo Iardino,
alfredo.iardino@ttuhsc.edu

Accepted 3 January 2018

DESCRIPTION

Coccidioidomycosis is a fungal infection by the *Coccidioides* genus and is usually caused by inhalation of the spores. Patients with diabetes are more likely to present with severe lung disease, especially cavitary lesions.^{1 2} We depict the case of a 47-year-old man with uncontrolled type 2 diabetes mellitus who presented with a right pulmonary lung abscess due to coccidioidomycosis and underwent a right thoracotomy with partial right upper lobe resection. Intraoperatively the pleura was found to be thickened, and the upper lobe had multiple adhesions and was perforated, creating a purulent bronchopleural fistula. He developed recurrent right-sided empyema due to the fistula and an attempt at a second thoracotomy was unsuccessful.

Figure 1 Right hemithorax status post-modified Eloesser flap procedure.

Video 1 Right hemithorax status post-modified Eloesser flap procedure during inspiration and expiration.

Learning points

- ▶ Patients with diabetes are more at risk to develop severe coccidioidomycosis and cavitary lung lesions.
- ▶ Despite taking a back seat to antibiotic therapy and less invasive procedures, modified Eloesser flap still remains an option in the treatment of complicated recurrent empyema for patients who have exhausted other therapies.

After placement of three failed endobronchial valves, he ultimately had a tunnelled pleural catheter placed. Two weeks later the patient began draining frank pus from the site and a modified Eloesser flap (MEF) procedure was performed successfully (figure 1 and online supplementary video 1). He tolerated the procedure well and was discharged home with daily wound care. At 6-month follow-up, the patient had no recurrence of empyema. He unfortunately passed away later due to unrelated events. The MEF functions as a valve, permitting air to escape more rapidly than it enters, promoting negative pressure in the pleural cavity. This causes the affected lung to expand, sealing the inner opening of the flap and obliterating the empyema. MEF can permit bronchopleural fistulas to become bronchocutaneous, thus allowing adequate control of the infection.³

Contributors OG: manuscript writing, images and video compilation. AI: manuscript writing, images and video compilation. AR: manuscript editing. YA: senior advisor, final manuscript approval.

Funding This research received no specific grants from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

© BMJ Publishing Group Ltd (unless otherwise stated in the text of the article) 2018. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

REFERENCES

- 1 Santelli AC, Blair JE, Roust LR. Coccidioidomycosis in patients with diabetes mellitus. *Am J Med* 2006;119:964–9.
- 2 Saubolle MA, McKellar PP, Sussland D. Epidemiologic, clinical, and diagnostic aspects of coccidioidomycosis. *J Clin Microbiol* 2007;45:26–30.
- 3 Thourani VH, Lancaster RT, Mansour KA, et al. Twenty-six years of experience with the modified eloesser flap. *Ann Thorac Surg* 2003;76:401–6.

To cite: Garner O, Iardino A, Ramirez A, et al. *BMJ Case Rep* Published Online First: [please include Day Month Year]. doi:10.1136/bcr-2017-223717

Copyright 2017 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow