


Sino-orbital mucormycosis in COVID recovered patient

Vivek Pant ^{1*}, Abha Shrestha², Devish Pyakurel², Keyoor Gautam² and Santosh Pradhan¹

¹Department of Clinical Biochemistry, Samyak Diagnostic, Lalitpur, Nepal

²Department of Pathology, Samyak Diagnostic, Lalitpur, Nepal

*Correspondence address. Department of Clinical Biochemistry, Samyak Diagnostic, PO Box 11708, Jawalakhel, Lalitpur, Nepal. Tel: +977-9841486789; E-mail: drv pant@gmail.com

A 58-year-old diabetic female patient had negative reverse transcriptase-polymerase chain reaction reports after 1 month of treatment for COVID. She had severe symptoms and therefore she was treated with steroid for 2 weeks along with supportive treatment. After discharge from hospital, she presented with a sudden appearance of left periorbital swelling and pain over left ear which was gradually increasing in severity over the next 3 days. On physical examination, there was a mild diffuse, nontender swelling over the left eye with blackish pigmentation near the infraorbital region. There was no loss of vision and the lymph nodes were not palpable. Magnetic resonance imaging head was done with finding of low-intensity lesion over left maxillary sinus with the involvement of orbital floor. With high clinical suspicion of mucormycosis, initiation of intravenous amphotericin B deoxycholate was done.

Caldwell-Luc surgical approach for sinus debridement was performed. Greyish black crusting was noted over

inferior turbinate, septum, conchae and floor of nasal cavity. The surgical debridement was done and the specimen obtained from maxillary sinus, cheek, orbital floor and nasal cavity was sent for histopathological examination. The haematoxylin and eosin stain, periodic acid-Schiff (PAS) stain and direct microscopy with 10% potassium hydroxide of the biopsy specimen revealed numerous non-septate to minimally septated broad ribbon-like hyphae showing branching angle and septation structure (Fig. 1a and b). Continuation of intravenous amphotericin B deoxycholate along with daily paranasal sinus debridement and irrigation with diluted amphotericin B was done.

Predisposing factors for mucormycosis in the index patient were presence of diabetes and treatment with steroid. The patient did not improve and passed away 10 days after surgical debridement. Prophylactic treatment protocols need to be established and followed for COVID patients, in all settings, for better prevention and management of opportunistic infection.

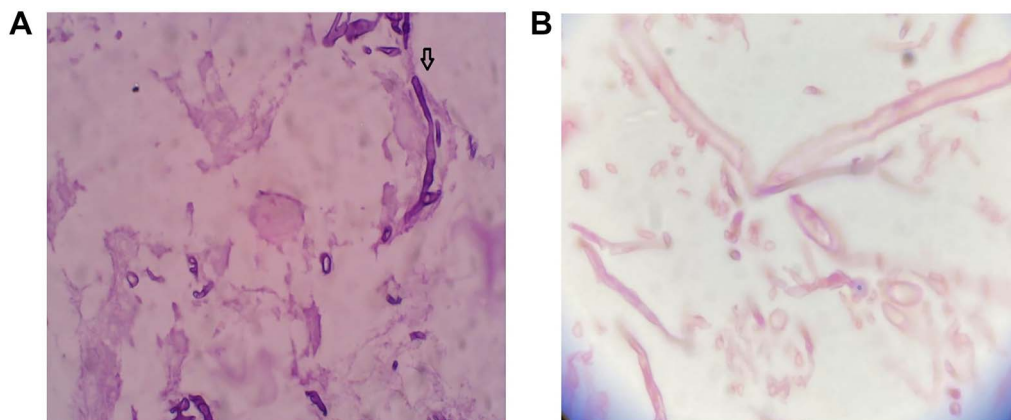


Figure 1. (a) Non-septate to minimally septated broad ribbon-like hyphae in PAS stain of biopsy sample. (b) Septating hyphae in H and E stain.

Received: October 1, 2021. Revised: November 24, 2021. Accepted: January 3, 2022

© The Author(s) 2022. Published by Oxford University Press. All rights reserved. For Permissions, please email: journals.permissions@oup.com

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited. For commercial re-use, please contact journals.permissions@oup.com

ACKNOWLEDGEMENTS

Authors would like to thank Dr Upendra Poudel for his generous support during preparation of this report.

CONFLICT OF INTEREST

None declared.

FUNDING

The authors received no financial support for the research, authorship or publication of this article.

ETHICAL APPROVAL

This case is exempt from IRB approval at our institution.

CONSENT

Written informed consent was taken from the patient's son for the publication of this report and is available for review upon request.

GUARANTOR

Dr Vivek Pant.