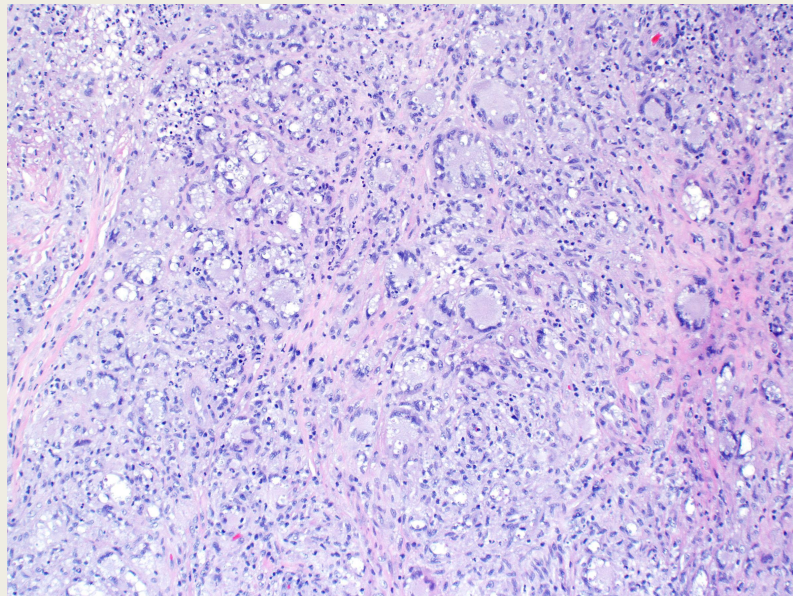


# May Case of the Month

- A 52-year-old male with history of Multiple Sclerosis controlled with Fingolimod (a sphingosine-1-receptor modulator)
- Presented to Dermatology for an itchy rash on bilateral upper arms
  - *Red, crusted papules*
  - *Right upper extremity lesion measured 12mm*



- What is your diagnosis?

A thick black L-shaped frame surrounds the text. The top-left corner is a horizontal bar extending to the right, then a vertical bar extending downwards. The bottom-right corner is a horizontal bar extending to the left, then a vertical bar extending upwards.

# CRYPTIC CUTANEOUS RASH

Author: Jessica Sterner, MD Candidate Class of  
2022

# The Case

- A 52-year-old male with history of Multiple Sclerosis controlled with Fingolimod (a sphingosine-1-receptor modulator)
- Presented to Dermatology for an itchy rash on bilateral upper arms
  - *Red, crusted papules*
  - *Right upper extremity lesion measured 12mm*
- Allergies: none known
- Family hx: negative
- Social hx: Tobacco use, regularly handles chickens



Lesion on right posterior upper arm.



# Histology

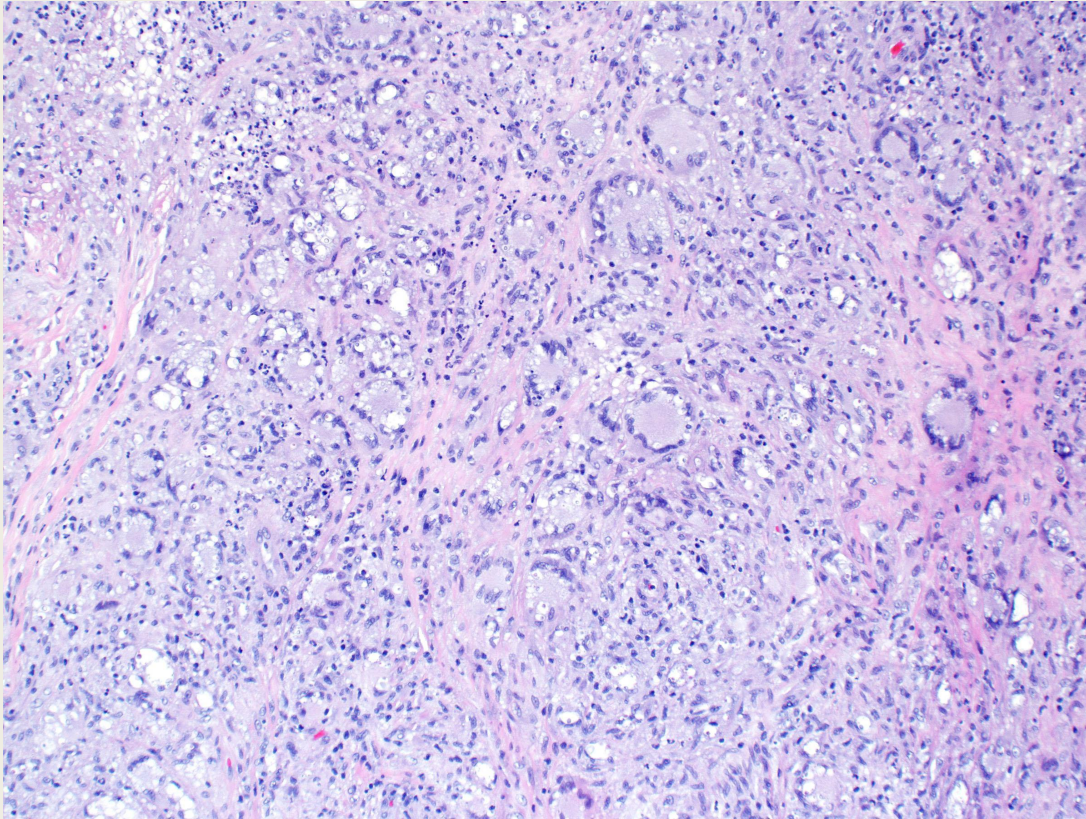


Fig. 1 - Biopsy from right posterior upper arm lesion showing nodular granulomatous infiltrate with many multinucleated giant cells with vacuolated histiocytes showing yeast forms (left).

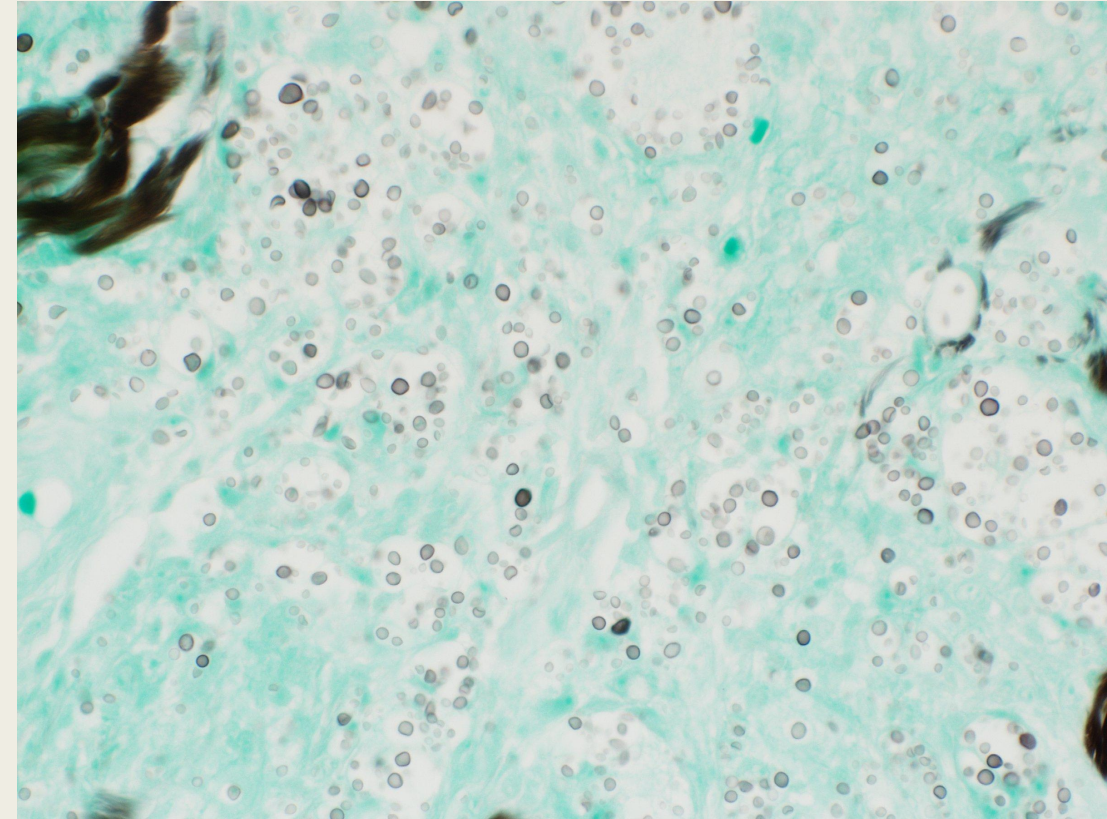
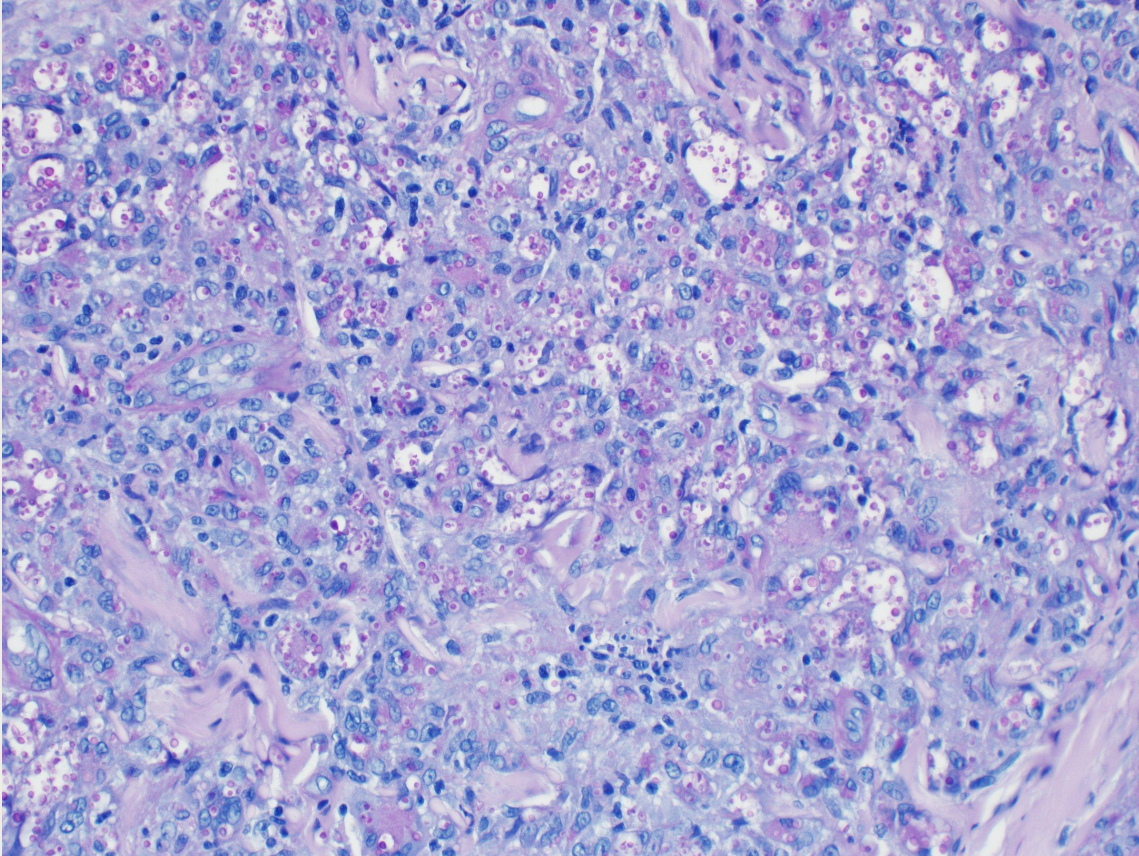
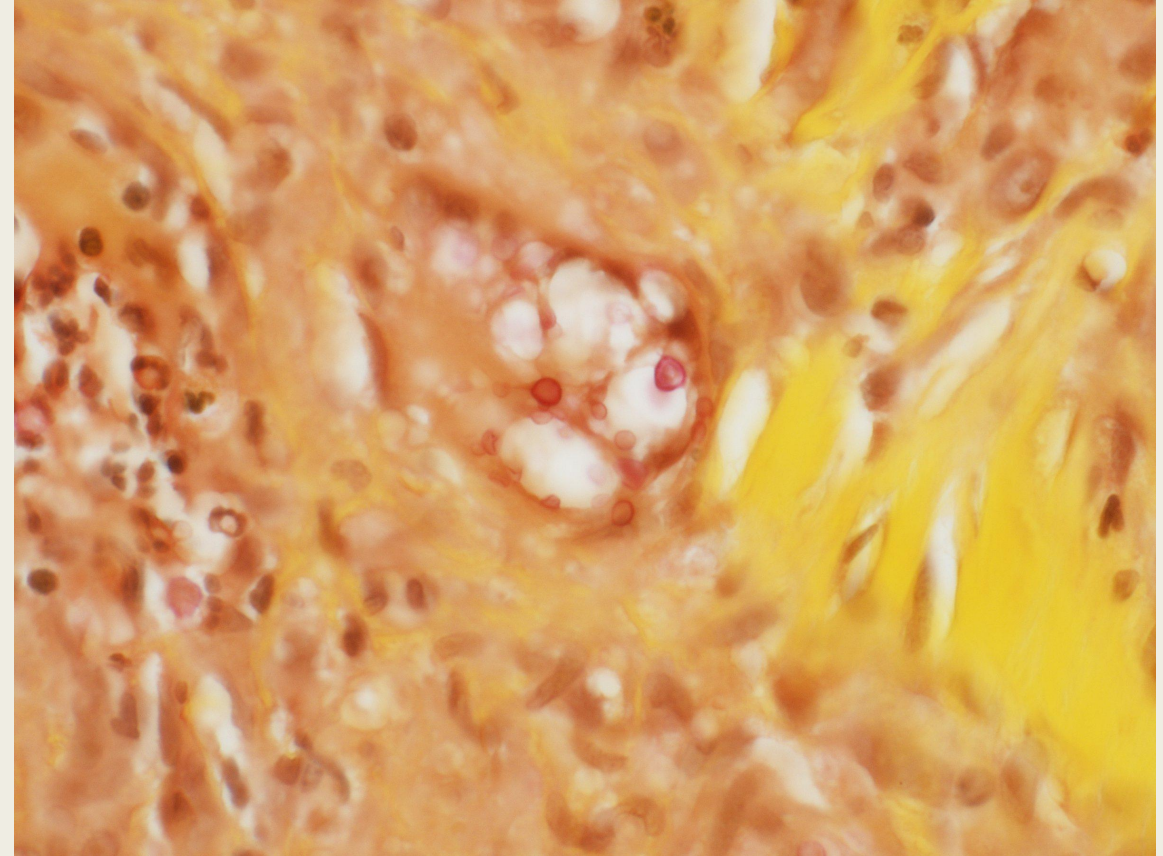


Fig. 2 - Gringotts methenamine silver verifying presence of yeast organisms (right).





Periodic acid-Schiff stain



Mucicarmine stain

- Periodic acid-Schiff stain Mucicarmine stain highly indicative of cryptococcal organisms

# Primary cutaneous cryptococcus secondary to Fingolimod use

## Treatment

- Six-month course of oral Fluconazole 400mg for cutaneous only disease
- Consultation with infectious disease
- Decision was made to remain on Fingolimod
- Work-up for possible systemic disease including CSF analysis and blood cultures
- \*\* if further workup indicates systemic or CNS involvement, treatment would include..
  - *Amphotericin B and flucytosine*
  - *Followed by one year of Fluconazole*

# Question 1

- Which of the following is a risk factor for primary cutaneous cryptococcus neoformans infection?
  - *A. Owning a cat*
  - *B. Camping*
  - *C. Bird handling*
  - *D. Cave diving*



# Question 2

- Which histologic staining technique is the most specific for the diagnosis of cryptococcus neoformans?
  - *A. India Ink*
  - *B. Methenamine silver*
  - *C. Periodic acid-Schiff*
  - *D. Mucicarmine*

# Sources

- Eisenman, H.C., Casadevall, A. & McClelland, E.E. New insights on the pathogenesis of invasive *Cryptococcus neoformans* infection. *Curr Infect Dis Rep* **9**, 457–464 (2007). <https://doi-org.proxy.mul.missouri.edu/10.1007/s11908-007-0070-8>
- Forrestel AK, Modi BG, Longworth S, Wilck MB, Micheletti RG. Primary Cutaneous Cryptococcus in a Patient With Multiple Sclerosis Treated With Fingolimod. *JAMA Neurol.* 2016;73(3):355–356. doi:10.1001/jamaneurol.2015.4259
- Patil SM, Beck PP, Arora N, Acevedo BA, Dandachi D. Primary cutaneous cryptococcal infection due to fingolimod - Induced lymphopenia with literature review. *IDCases.* 2020;21:e00810. Published 2020 May 15. doi:10.1016/j.idcr.2020.e00810
- Perfect JR, Dismukes WE, Dromer F, Goldman DL, Graybill JR, Hamill RJ, Harrison TS, Larsen RA, Lortholary O, Nguyen MH, Pappas PG, Powderly WG, Singh N, Sobel JD, Sorrell TC. Clinical practice guidelines for the management of cryptococcal disease: 2010 update by the infectious diseases society of america. *Clin Infect Dis.* 2010 Feb 1;50(3):291-322. doi: 10.1086/649858. PMID: 20047480; PMCID: PMC5826644.