

# LASOP Case Presentation

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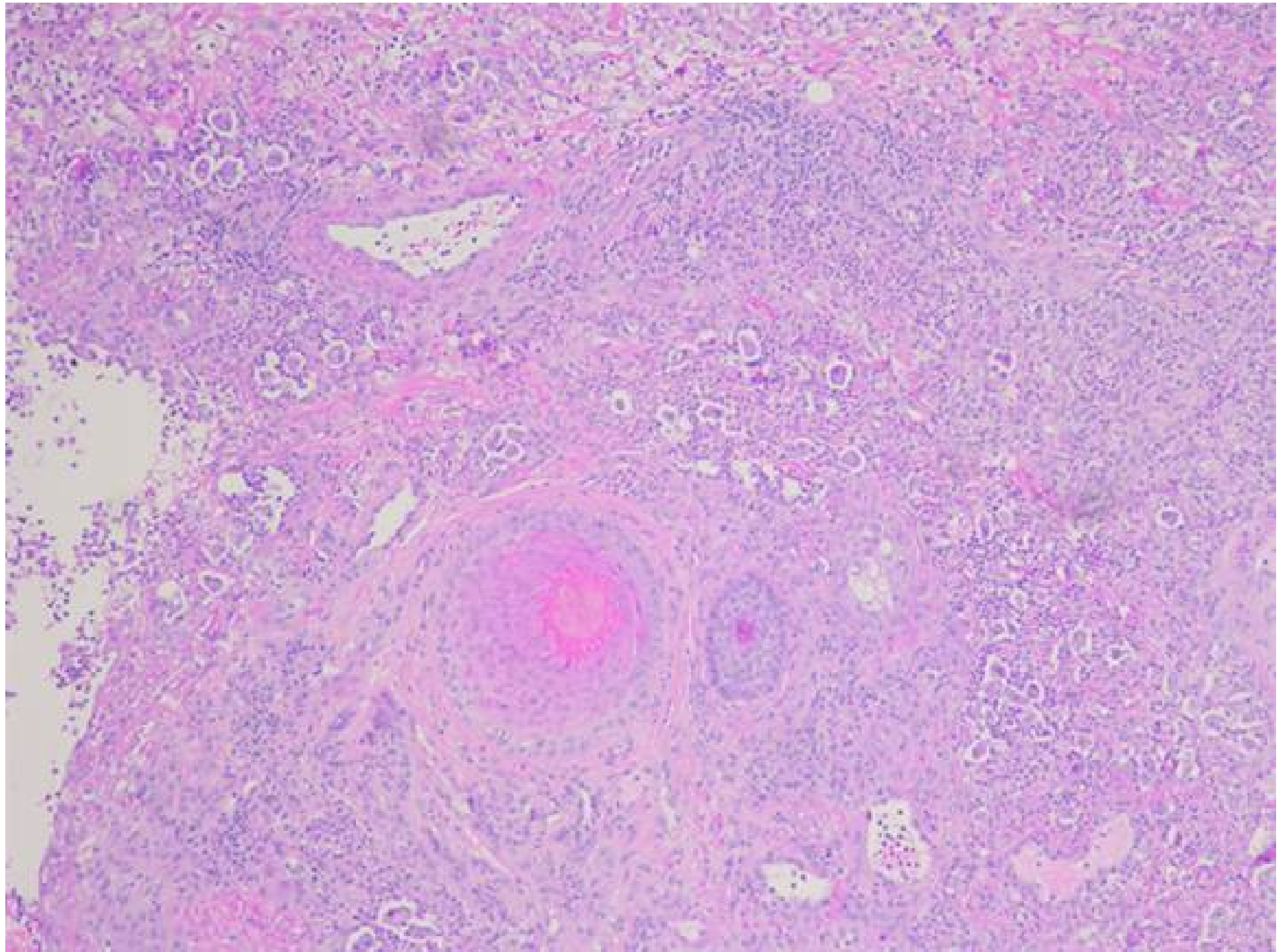
# Clinical Presentation

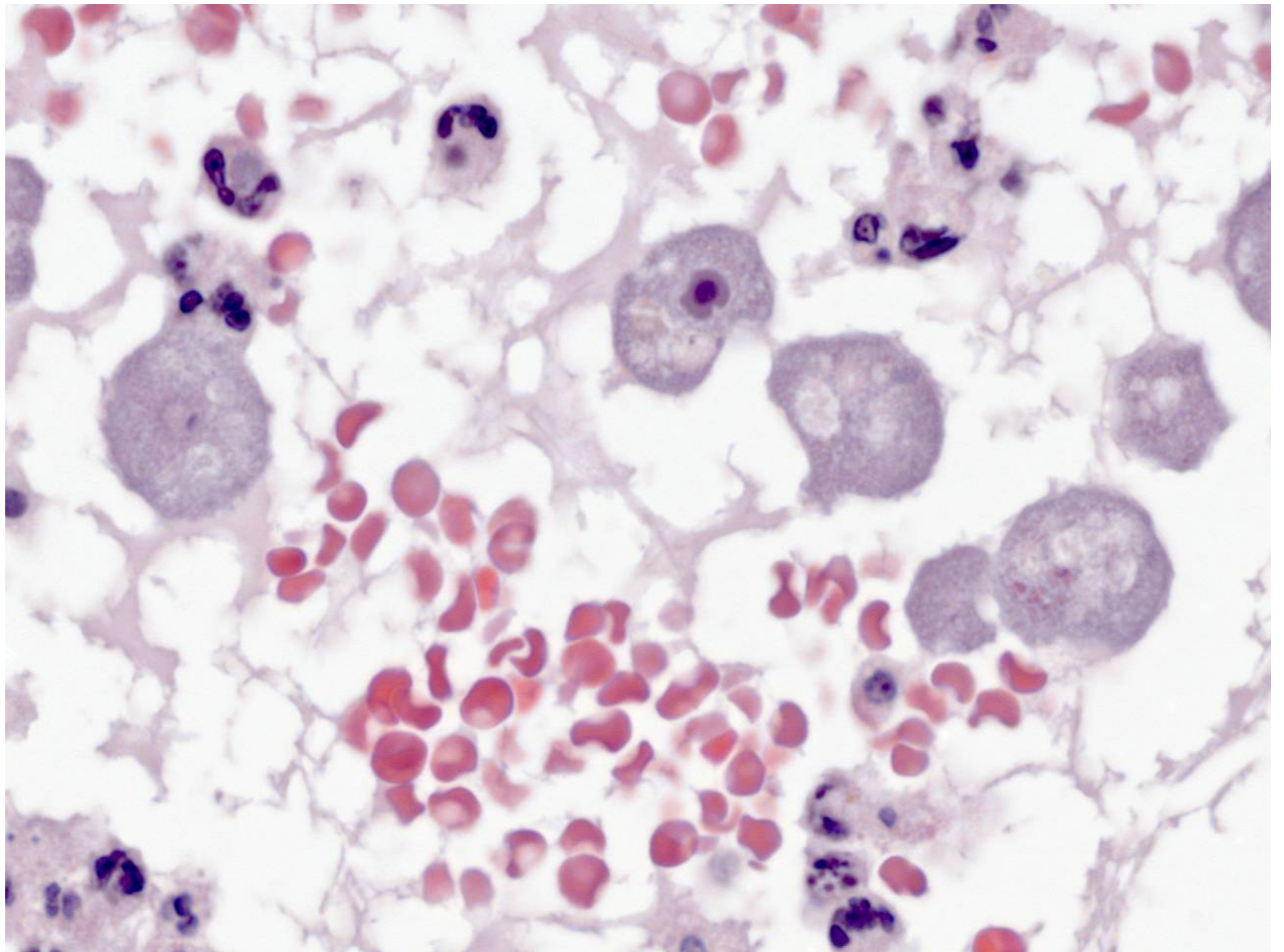
- 62 year old male
  - With a history of idiopathic pulmonary fibrosis
  - 2 months status post bilateral lung transplant
  - Diagnosed with acute rejection, on high doses of immunosuppressants
  - Presented to hospital with bilateral chest skin lesions

# Skin Lesions

- Erythematous nodules which enlarged
- Drained serous fluid after three weeks







# Diagnosis

- Cutaneous amoebiasis
  - Acanthamoeba
  - Confirmed via PCR (CDC)

# Special Stains

CD 68	Negative
PAS	Negative
AFB	Negative
GMS	Negative

# More History

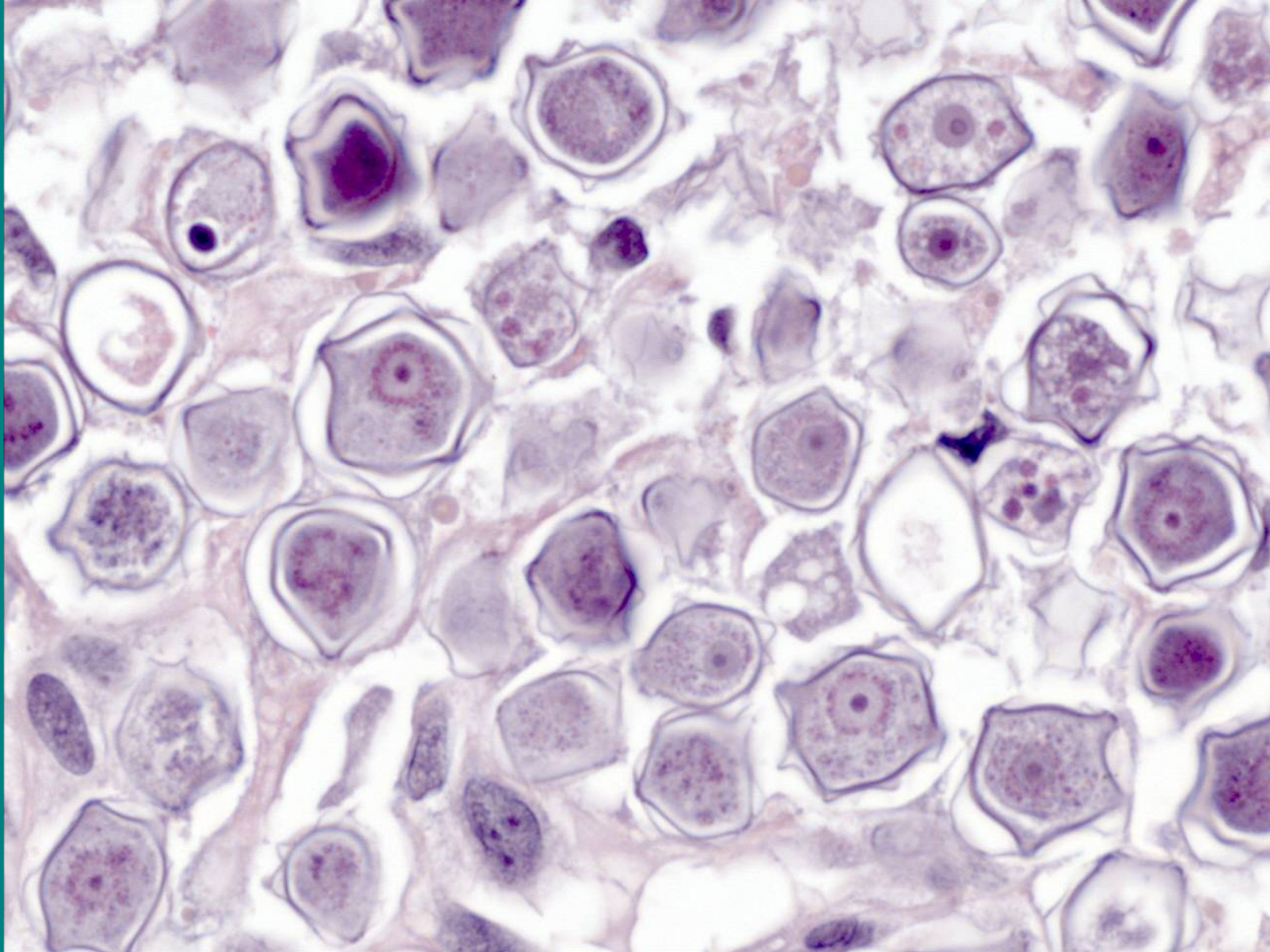
- After a week of hospitalization
  - The patient developed another lesion
  - The patient became altered



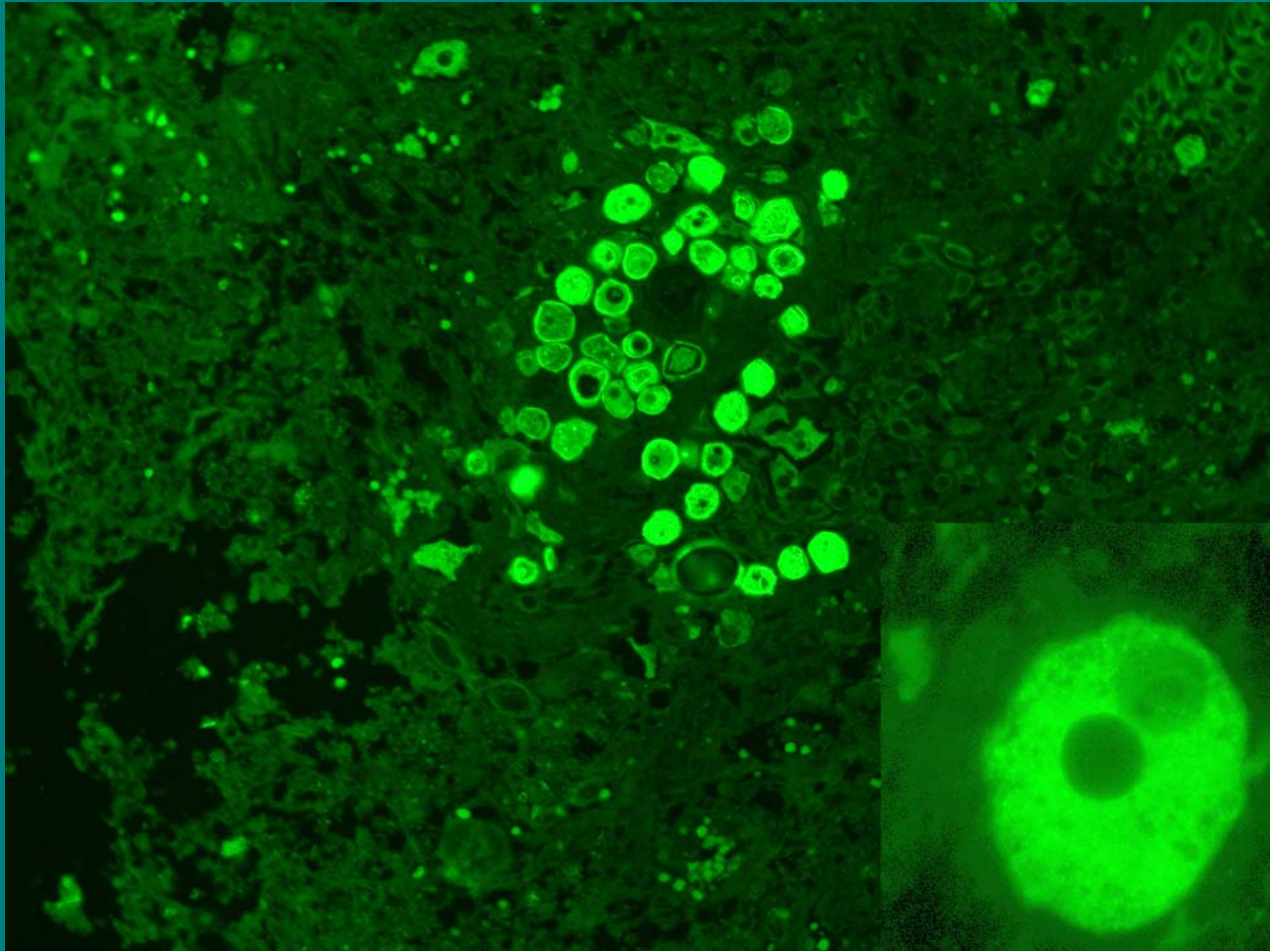
# New Skin Lesion



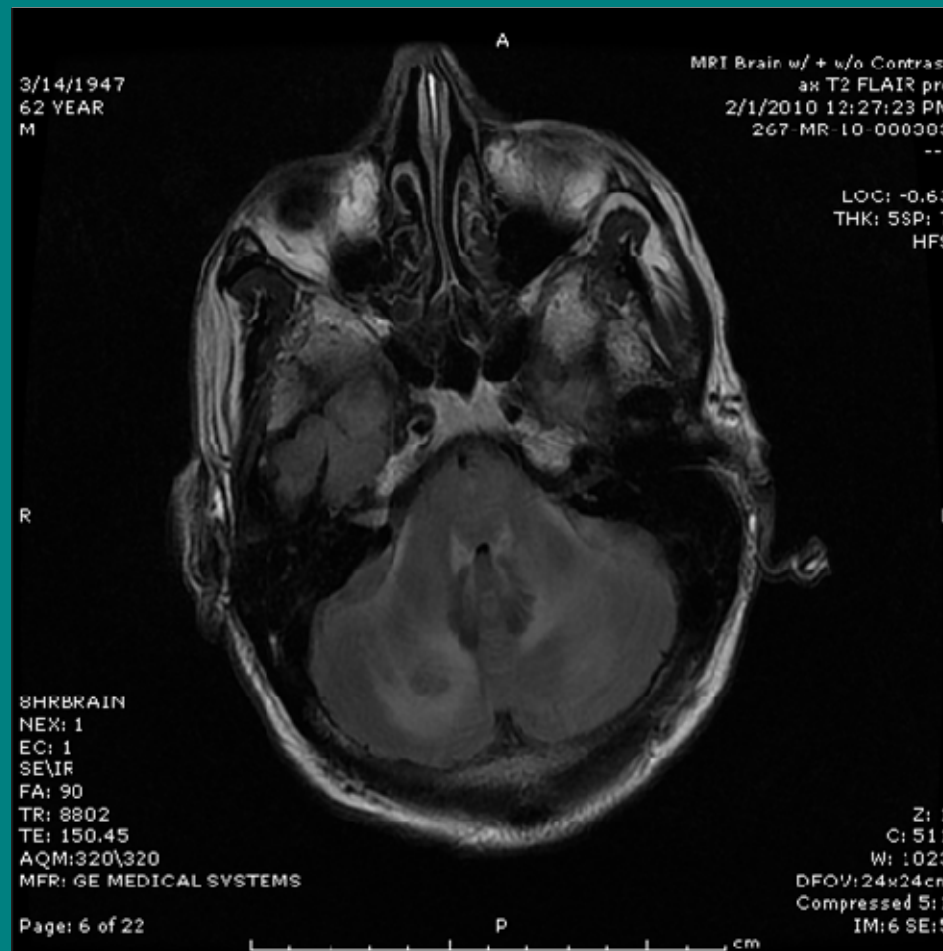
# Second Skin Biopsy



# Anti-Acanthamoeba Antibody



# MRI



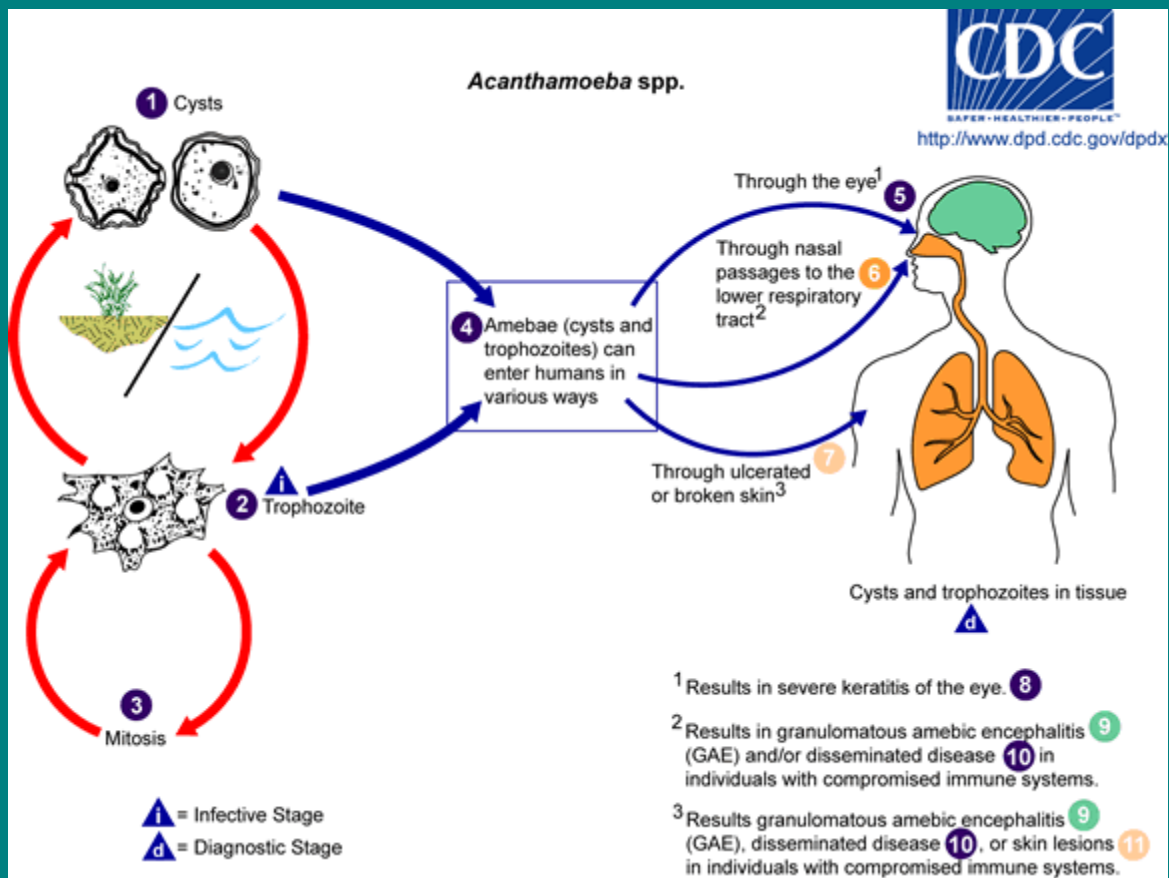
# CSF



# Acanthamoeba

- Ubiquitous
- Can cause
  - Keratitis
  - Granulomatous Amoebic Encephalitis (GAE)
- May harbor organisms
- Healthy individuals have serum antibodies

# Life Cycle



# Pathogenicity

- Portals of entry
  - Skin
  - Paranasal sinuses / Respiratory tract
- Cutaneous extension may precede dissemination by weeks to months
- Once disseminated, almost uniformly fatal



# GAE

- Seen in immunocompromised patients
  - AIDS
  - Organ transplants
  - Chemotherapy/radiation
- Host cannot mount immune response
  - Macrophages are not primed
  - Immunosuppressed cannot form granulomas
- Use of multiple antibiotics can predispose

# Morphology

- Necrotic ulceration
- Mixed inflammatory infiltrate
- Granulomas may not be present
- Organisms 10-60 micrometers
  - Prominent round/ovoid nucleus
  - Central prominent nucleolus forming halo
  - May phagocytize red cells or neutrophils
  - Occasional double-walled cysts
- Speciation cannot be achieved by morphology alone
  - *Balamuthia mandrillaris* has same nuclear features

# Special Stains

- PAS/GMS may be positive
- CD68 to rule out macrophages
- Gram stain
- AFB
- IHC stains available

# Diagnosis

- High index of suspicion
  - Immunocompromised patients
- Non-healing skin ulcers
- Negative stains for other microorganisms
  - Ddx
    - Fungus
    - Macrophages
    - Vasculitis
    - Bacillary angiomatosis
- Confirmed by PCR or IHC stains

# Summary

- Acanthamoebae are ubiquitous
- Opportunistic infection in immunosuppressed patients
- May disseminate from skin lesions
- Once disseminated, almost always fatal
- Morphologically bland
- Special stains to rule out other diagnoses
- Can be confirmed by PCR
- High index of suspicion necessary for quick diagnosis

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