Case #72: Cutaneous Nodules in a Cat

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History and Physical Exam

• 4-year-old, spayed, female, DSH cat
• Presented for ascites of 2 months duration with bimonthly draining of fluid
• Physical exam:
  ▫ Mild dyspnea
  ▫ Abdominal distension
  ▫ Pain on abdominal palpation
  ▫ Cutaneous nodules
Gram Stain
Morphologic Diagnosis: Pyogranulomatous dermatitis and panniculitis with intralesional filamentous bacteria.

Bacterial Culture: *Nocardia kruczakiae*
**Nocardia spp.**

- Saprophytic, aerobic bacteria
- Species commonly affected:
  - Dogs
  - Cats
  - Cattle
  - People
- Common species isolated:
  - *Nocardia asteroides*
  - *Nocardia brasiliensis*
  - *Nocardia otitidiscaviarum*
Respiratory infection

- Contracted via inhalation
- Can spread hematogenously to:
  - Skin
  - Liver
  - Kidney
  - Lymph nodes
  - Brain
Cutaneous infection

- Soil contamination of skin wounds
- Gross findings:
  - Firm to fluctuant nodules
  - Fistulous tracts
  - Sulfur granules
- Microscopic findings: pyogranulomatous dermatitis and panniculitis with multifocal abscessation
Nocardia vs. Actinomyces

- Branching, beaded, filamentous bacteria
- Gram positive and partially to variably acid-fast
- Bacterial cultures or PCR are necessary for a definitive diagnosis
Case Summary

- Hepatic fibrosis and inflammation
- Ascites
- Cutaneous *Nocardia* infection only
- Various antibiotics for 2 years:
  - Atypical gross lesions with characteristic microscopic lesions
  - Possible cause of hepatic disease
Questions?

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References