Signalment and History

- 25 y.o. ♀ sooty mangabey (Cercocebus atys)
- Naturally acquired SIV (‘97) & STLV-1 infections (‘08)
- 04/12: Periorbital swelling, erythematosus dermatitis, & lymphocytic leukocytosis
  - Leukocytosis improved with antibiotic treatment

http://news.sciencemag.org/sciencenow/2008/06/25-01.html
Signalment and History

• **06/12**: Weight loss
  – Continued lymphocytic leukocytosis
  – Hypercalcemia
  – Bone marrow aspirate collected

• **07/12**: Continued weight loss despite supportive care and symptomatic treatment
  – Continued lymphocytic leukocytosis, hypercalcemia, & erythematous dermatitis
  – Euthanasia elected
Gross Pathology

• Heart
  – Multiple tan-white areas
  – Numerous nodules on mitral valve leaflets

• Lung
  – Mottled tan-white areas

• Spleen
  – Enlarged and firm

• Lymph Nodes
  – Generalized lymphadenopathy
Bone Marrow

50X
# Bone Marrow Aspirate Analysis

<table>
<thead>
<tr>
<th>Parameter</th>
<th>YN12-455</th>
</tr>
</thead>
<tbody>
<tr>
<td>M:E</td>
<td>6.75:1</td>
</tr>
<tr>
<td>Lymphocytes</td>
<td>64%</td>
</tr>
<tr>
<td>Total Myeloid</td>
<td>96%</td>
</tr>
<tr>
<td>Total Erythroid</td>
<td>4%</td>
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</tbody>
</table>
Ancillary Test

- BM aspirate
  - Immunocytochemistry
    - CD3 (+)
      - T-cell marker
    - CD8 (+)
      - Cytotoxic T-cell marker
    - CD23 (-)
      - B-cell marker
Morphologic Diagnoses

- $T_c$-cell leukemia
- Multicentric lymphoma
  - Heart, lung, liver, spleen, kidney, lymph nodes
Adult T-cell Leukemia/Lymphoma

• Caused by HTLV-1 infection in humans
  – < 5% infections result in disease
• ~ 6 month survival
• Lymphadenopathy, skin lesions, fever, hepatomegaly, splenomegaly, leukocytosis, hypercalcemia, visceral involvement
• Mature T-cell morphology
• Eosinophilic infiltration
STLV-1

- Deltaretrovirus
- Transmission
  - Sex
  - Breastfeeding
  - Trauma
- Natural hosts usually asymptomatic
- T-cell neoplasia
  - SIV/STLV-1 > STLV-1 alone
References

• Fultz PN, McGinn T, Davis IC et al.: Coinfection of macaques with simian immunodeficiency virus and simian T cell leukemia virus type I: effects on virus burdens and disease progression. The Journal of infectious diseases 179: 600-611, 1999


• Lopez-Lerma I, Caballero E, Palacio C et al.: Aggressive Adult T Cell Leukemia/Lymphoma: The Tip of the Iceberg of the Hidden Human T Cell Lymphotropic Virus Type 1 Infection Burden in Nonendemic Countries. AIDS research and human retroviruses, 2012

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Questions?