Cutaneous Squirrel Fibromatosis

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Northwest ZooPath
Conservation Through Disease Diagnosis

UF University of Florida
Veterinary Diagnostic Laboratories

http://www.etsy.com
History

- Juvenile female grey squirrel (*Sciurus carolinensis*)
- Marked toe swelling on the right hindlimb of a few month duration
Initial diagnostics

- FNA reveals inflammation only
- An excisional biopsy is submitted to Northwest ZooPath

http://www.wlcastleman.com/ufvetmed/
Gross findings in similar cases

Photos courtesy of Lisa Farina, DVM, DACVP

Permission granted only for viewing on SEVPAC website
Case# G06-2215
Epidermis

Normal

Hyperplastic

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Epidermis - Bollinger bodies
Hyperplastic epidermis
Dermis - Bollinger bodies
Morphologic diagnosis

• Proliferative epidermitis and severe mixed cell pododermatitis, chronic, diffuse, moderate to severe, with intracytoplasmic eosinophilic inclusions, haired skin, toe

• Diagnosis is consistent with squirrel fibromatosis (squirrel pox)
Squirrel fibromatosis (SF)

• Caused by a squirrel fibroma virus (SFV), poxvirus in the *Leporipoxvirus* genus

• Cutaneous fibromas in free ranging grey squirrels have been reported in the literature since 1953

• Cases involving visceral organs are less frequent
Transmission and distribution

- Biting arthropods
  - Mosquitoes
  - Squirrel flea (*Orchopeas howardi*)
- Eastern coast and infrequently in the southern US and Ontario
SFV ultra-structure


www.microbiologybytes.com/virology
<table>
<thead>
<tr>
<th></th>
<th>Squirrel fibroma virus</th>
<th>UK squirrelepox virus</th>
<th>Canadian squirrelepox virus</th>
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</thead>
<tbody>
<tr>
<td><strong>Main species</strong></td>
<td>Eastern grey squirrel <em>(Sciurus carolinensis)</em></td>
<td>European red squirrel <em>(Sciurus vulgaris)</em></td>
<td>NA red squirrel <em>(Tamiasciurus hudsonicus)</em></td>
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<tr>
<td><strong>Range</strong></td>
<td>Eastern US and Canada</td>
<td>UK</td>
<td>Unknown</td>
</tr>
<tr>
<td><strong>Gross</strong></td>
<td>Cutaneous and visceral nodules</td>
<td>Ulcerative and exudative dermatitis</td>
<td>Exudative dermatitis</td>
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<tr>
<td><strong>Inclusions</strong></td>
<td>Intracytoplasmic inclusions - epithelial cells &amp; fibroblasts</td>
<td>Intracytoplasmic inclusions - keratinocytes</td>
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</tr>
</tbody>
</table>

Squirrel fibroma virus
Rabbit fibroma virus
Hare fibroma virus

Tanapox
Tanapox
Yabba monkey tumor virus

UK squirrellpox virus
Canadian squirrellpox virus

Orthopox

Leporipox

Molluscipox
Molluscum contagiosum

Avipox
Fowlpox

Parapox

Orf virus
Reindeer parapox
Red deer parapox
Bovine papular stomatitis virus
Thanks

Dr. Lisa Farina
UF VDL Histology Staff
Fellow residents


