B17-00641

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History and Signalment

- 10-year-old, spayed female, German Shorthaired Pointer dog.
- 3-year history of growing, wart-like masses and plaques on the skin.
- First mass noted in the inguinal region, then eyelid and progressing over the trunk and extremities.
- rDVM began oral azithromycin therapy.
- Clinical symptoms did not improve.
- Referred to UGA CVM and biopsies were performed.

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Initial Diagnostics

- Multiple biopsies (4) of wart-like to plaque-like cutaneous growths sampled.
  - Submitted for routine histopathology (H&E).
  - Pigmented and non pigmented submitted.
  - Additional biopsies were acquired and archived frozen by the Dermatology service.
Morphologic diagnosis

Haired skin: Pigmented viral plaque, multifocal, marked, with epidermal hyperplasia and hyperkeratosis, consistent with canine papillomavirus infection
Additional Ancillary Testing

• Immunohistochemistry (IHC)
  o Multispecies papillomavirus: positive

• Transmission electron microscopy (TEM)
  o Large numbers of intranuclear, electron-dense, nonenveloped, icosahedral capsids, averaging 35 nm in diameter.
Findings are consistent with pigmented viral plaques in dogs.

These are uncommon skin conditions reported in dogs, usually associated with immunosuppression.

CPV-3, 4, 5, 8, 9, 10, 11, 12, 14, and 16 have been associated with cutaneous viral plaque formation.\(^1\)

Malignant transformation into squamous cell carcinoma has been reported.\(^2\)
Pathogenesis

• CPVs enter the skin through microtrauma → immunosuppression (hyperadrenocorticism, hypoglobulinemia, hypothyroidism) → decrease clearing of virus → incorporation of CPV DNA into the genome → production of oncoproteins → degradation of p53 → reduction in apoptosis → UV light damage to DNA → decrease in DNA repair → increased likelihood of developing carcinoma in situ or SCC\textsuperscript{3, 4}
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References


