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Squamous Metaplasia Associated with Hypovitaminosis A of the Crop and Salivary Glands in Captive Falcons in the United Arab Emirates

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Abstract: Twenty falcons exhibiting tongue swelling, oropharyngeal pustules, and crop mucin gland impactions were presented for veterinary care to the Al Aseefa Falcon Clinic in Dubai, United Arab Emirates October to January 2018 to 2021. Squamous metaplasia was confirmed in 2 euthanized falcons from this group. A study was undertaken to assess circulating concentrations of serum retinol in this group of diseased falcons (n=20) compared to the values of a clinically normal group (n=20). Blood samples were collected and analyzed for concentrations of serum retinol. Comparison of serum retinol concentrations between the 2 groups showed a significant difference ($P < 0.001$), with clinically normal falcons having a median (25-75%) range of 1.43 (1.34-1.66) µg/mL and clinically abnormal falcons 0.17 (0.11-0.36) µg/mL. The significant difference in the serum retinol concentrations between groups provided strong evidence that the squamous metaplasia was associated with hypovitaminosis A. These results demonstrate that circulating serum retinol concentrations may be useful for assessing and diagnosing hypovitaminosis A in cases exhibiting distinctive lesions in the tongue, salivary glands, crop, and oropharynx.