INVESTIGATION OF METASTATIC SOFT TISSUE MINERALIZATION IN CAPTIVE KOMODO DRAGONS (Varanus komodoensis)

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ABSTRACT

Metastatic soft tissue mineralization has emerged as a major risk factor for mortality in captive Komodo dragons (Varanus komodoensis), having been reported in approximately 30% of mortalities over the last 20 yr. A histologic review indicated that metastatic mineralization contributed to the cause of death in approximately half of these cases, and suggested it may be linked to the high prevalence of yolk coelomitis and/or embolization in females. A comprehensive institutional survey analyzed current diet and husbandry practices for captive Komodo dragons in North America. Twenty-one institutions participated in the survey, which managed a total of 53 animals. There were 26 (49.1%) males, 20 females (37.7%), and 7 (13.2%) unknown sex dragons included in the survey. The median age of the animals was 10.1 yr (minimum-maximum: 0.33-21.7 yr). A total of 16 mortalities were recorded by the institutions. The majority (81%; 13/16) of the deaths were reported in females, and the mean age at death was 10.0 yr (SD: 6.4, minimum-maximum: 0-21). The majority (69.2%; 9/13) of the deaths in females were attributed to metastatic mineralization and yolk coelomitis. The other deaths were attributed to cervical cord compression, liver disease, sepsis, trauma, and dystocia. Participating institutions varied in the husbandry methods they provided their dragons, whether it be temperature gradients, indoor/outdoor exposures (majority of the dragons had the opportunity to move between indoor and outdoor habitats), types of artificial light provided, or diet (rats, rabbits, quail, chicken, fish, eggs and commercial bird of prey diets).