

Identification of canine papillomavirus in the transmissible venereal tumor using the polymerase chain reaction technique in canines (*Canis lupus familiaris*)

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The Venereal transmissible tumor (TVT), also known as infectious sarcoma, venereal granuloma, transmissible lymphosarcoma or Sticker's sarcoma, is a neoplastic disease affecting dogs and its propagated mainly during the intercourse. The TVT is located mainly in the genital area with a lower frequency at the oral cavity, nasal cavity, eyes and skin. The disease is presented as a tumoral mass at the glans bulb in males, and in the vaginal vestibule. Up to date, there is no evidence for a viral agent as the causative agent for TVT development. The present work was aimed to analyze 21 samples from canines with TVT for clinical, cytological and histopathological evaluation, as well as for blood count, clinical chemistry, bacterial culture and molecular analysis to identify papilloma virus DNA sequences. Clinical diagnostic confirmed the clinical and biochemical features for TVT and molecular analysis demonstrated the viral DNA presence in the samples through the amplification of the viral sequence L1 (major capsid coding gene of papilloma virus) using different primer sets, the MY primers amplified a 450 bp band in seven out of 23 samples (33%). L1 positive samples were sequenced

to analyze the identity of the PCR product. The PVF and Fap-64 primer set, targeting the L1 sequence of Canine Papilloma Virus (CPV), showed positivity in 16 out of 21 samples (76%). On the other hand, the amplification using the CP4/5 primer set, aimed to amplify the E1 region of CPV, showed no amplification at all. These results support the possible causative association between CPV and TVT; nevertheless, confirmatory studies are required to confirm such as statement. This work represents the first evidence indicating that a viral agent might be involved in the pathogenesis of TVT with high impact in the understanding of TVT pathogenesis.

Speaker Biography

Sergio Ayala-Díaz is graduated in Zootechny from Universidad del Mar, holds a degree in Hematology from the Universidad Nacional Autónoma de México and a Master of Science from Universidad del Mar in collaboration with the Instituto Nacional de Cancerología, México. He has worked in collaboration with other researchers in the area of Epidemiology and Molecular Biology of oncogenic viruses and transmissible tumors such as canine transmissible venereal tumor to generate timely diagnostic tools.

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