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*Give That Dog His Bone: OSA Pedigree Analysis in IW's & Inhibiting OSA via Statins and Bisphosphonates*

The purpose of this project is: 1) To build a pedigree analysis illustrating the possibility that there is a genetic link for developing OSA and that there is a heightened risk for dogs to contract OSA that have been neutered before the age of one and 2) Inhibit the proliferation of canine OSA cells by applying bisphosphonates and statins in-vitro. The researchers hypothesize that there will be evidence of a genetic link for dogs developing osteosarcoma whose parent or parents were diagnosed with OSA. It is also hypothesized that the pedigree analysis will illustrate that the dogs that were neutered before the age of one developed osteosarcoma over their littermates that stayed viable longer and that the statins and bisphosphonates reduce the malignancy of the canine OSA cells and decrease the growth rate after exposure to drugs. To test these hypotheses: 1) Expose canine OSA cells to statins and bisphosphonates for one week and 2) Build a pedigree analysis based on dogs that were diagnosed with OSA. In conclusion, the researchers' hypotheses were supported. The statins and bisphosphonates limited cell growth by an average of 39% and eliminated cell life by 61%. The pedigree analyses suggested that there was a genetic link between dogs and their parents for contracting OSA. However, there was not enough evidence to support that neutering a dog before the age of one had any effects on developing OSA.