

Hydropulsion: Alternative Biopsy Technique

Biopsies obtained under rhinoscopic guidance are only 83% successful in identifying tumor type and successful diagnosis may depend on the volume of tissue obtained. In this study, hydropulsion is described as a noninvasive biopsy alternative that aids in acquiring larger tissue samples from dogs and cats and helps relieve clinical signs of obstructive breathing while histology results are pending. A small proportion of patients (6/41) underwent a recommended CT scan before the procedure. Rhinoscopy of the anterior and posterior nasal cavities using both a multipurpose rigid telescope and a flexible bronchoscope was performed. Nasal hydropulsion was performed by occluding one nostril at a time. A 20- to 60-mL regular Luer-tip syringe containing room-temperature sterile saline was inserted around the contralateral alar fold and into the anterior nasal cavity at a rate of 60 mL in <2 seconds in order to generate high pressure. This was repeated in the opposite nostril, and the entire procedure was repeated 1 to 3 times. The back of the oropharynx and the trachea rostral to the endotracheal cuff were suctioned after the procedure. Tissue fragments obtained were submitted for histopathologic analysis.

Diagnostic samples were obtained in 37 of 41 patients (90.2%). Success did not appear related to tumor type. Histologic differentials included chondrosarcoma, osteosarcoma, carcinoma, lymphoma, myxosarcoma, adenocarcinoma, sarcoma, spindle cell tumor, and squamous cell carcinoma. Approximately one-third of the canine and feline patients experienced immediate relief of nasal obstruction following hydropulsion. One cat reportedly was hydropulsed 3 times over a 24-month period for palliative effects.

Commentary: Hydropulsion is commonly used for cats with suspected rhinitis in which mucosal plug removal is good for symptomatic therapy; however, it is less common to use hydropulsion for tumor diagnosis. This paper demonstrates a relatively noninvasive technique for obtaining a diagnosis that is easy to facilitate as long as general anesthesia with intubation is available. Although it is recommended that patients with nasal tumors be imaged before biopsy, no post-



operative neurologic complications were noted in this study and complications due to placement of the tumor (at least in this study's population) were rare. This may make clients and veterinarians more willing to try diagnostics and/or palliative care for pets with nasal tumors when financial concerns prohibit MRI or CT before the procedure.—Heather Troyer, DVM, Diplomate ABVP, CVA

Nasal hydropulsion: A novel tumor biopsy technique. Ashbaugh EA, McKiernan BC, Miller CJ, Powers B. *JAAHA* 47:312-316, 2011.

Research Note

Free Online Resources

Three online databases for inherited disorders in dogs provide a wealth of information to veterinarians, geneticists, breeders, and dog owners. The Canine Inherited Disorders Database (CIDD) focuses on diagnosis and management, with 3 main sections (ie, general information, disease pages, individual breed pages). Its goal is to help veterinarians manage genetic diseases and reduce their prevalence in the future. The Inherited Diseases in Dogs (IDID) database, a comprehensive list of all known inherited canine disorders, contains peer-reviewed scientific literature with a less clinical slant than the CIDD. The Online Mendelian Inheritance in Animals (OMIA) database was started as an offline catalog with strong emphasis on comparative medicine. Of all the animal species in the OMIA, dogs are the best documented. Each entry lists references, the human homologue (if relevant), and the mutated gene (if known) with appropriate hyperlinks to other databases, including the major genome databases in the United States and Europe. These 3 databases are largely complementary and would benefit by having their relevant sections cross-referenced via hyperlink. The largest challenge remains obtaining the necessary funding to keep these vital resources up-to-date.

Internet resources cataloging inherited disorders in dogs. Nicholas FW, Crook A, Sargan DR. *VET J* 189:132-135, 2011.

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