Intraoral approach for zygomatic sialoadenectomy in dogs: an ex vivo study

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Introduction
Surgical removal of the zygomatic salivary gland is challenging due to its anatomical location. The current recommended approach to zygomatic sialoadenectomy is via lateral orbitotomy with osteotomy of the zygomatic arch while preserving the insertion site of masseter muscle. An intraoral approach was evaluated as an alternative technique.

Material and Methods
Bilateral zygomatic sialoadenectomies were performed in 10 canine cadavers; one side by an intraoral approach and the contralateral by lateral orbitotomy. For the intraoral approach, the dogs were positioned in dorsal recumbency, with their hard palates in a horizontal position. A 3 cm caudomedially oriented sharp incision was made in the oral mucosa caudal to the 2nd maxillary molar tooth; the remaining dissection was blunt. Surgical time and challenges were recorded. Wilcoxon signed-rank tests were used.

Results
Removal of the entire zygomatic salivary gland was successful in all dogs with the exception of two specimens in which remnant tissues were present after performing the intraoral approach. Zygomatic sialoadenectomy was significantly shorter by an intra-oral approach than by lateral orbitotomy (41.98 (33.47-49.55) versus 65.70 (54.93-76.38) minutes; $P < 0.005$).

Discussion/Conclusions
We demonstrate that zygomatic sialoadenectomy can be approached via the oral cavity. Since the zygomatic salivary gland lies for the greater part against the floor of the orbit, we hypothesized that this novel approach may offer several advantages. The intraoral approach results in minimal need for tissue dissection as compared to the lateral extraoral approach and is significantly faster. Intra-operative visibility proved good and the approach was relatively easy.