



Head & Neck tumors: diagnosis, staging, surgery, and multimodal treatment

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Nasal tumors

Nasal tumors in dogs and cats can have an intra-nasal location within the nasal cavity, or a more or less extra-nasal location, mainly the nasal planum. Tumor types, clinical behavior, and therapy options differ between these locations and between species.

In this lecture, the most common tumor types, diagnostic procedures, staging, treatment options, and prognosis will be discussed. Clinical cases will be presented, ranging from minimally invasive treatment to extensive surgery and reconstruction. Depending on tumor location and tumor type, treatment options include (laser) surgery, radiation therapy, plesiotherapy (Figure 1), photodynamic therapy, or a combination of treatment modalities. A novel minimally invasive laser debulking procedure for intranasal tumor residues after radiation therapy will be presented (Figure 2).¹ Other treatments, such as chemo, TKI's, and immunotherapy are less frequently performed for specific tumor types, mostly as adjuvant therapy.

Oral and maxillofacial tumors

Diagnosis, staging, and treatment of most common oral and maxillofacial tumors will be discussed. Apart from surgery, being the main local therapy for most cases (Figure 3), other therapies such as radiation, chemo, and TKI may be performed in selected cases either as sole therapy or, more often, in combination with surgery. Experimental ¹⁶⁶Ho microbrachytherapy for feline oral squamous cell carcinoma^{2,3} (Figure 4) and immunotherapy for canine melanoma will also be addressed, as well as more invasive surgical treatment of oral and maxillofacial tumors in respect of clinical efficacy and morbidity in dogs and cats.

Skin and subcutaneous tumors

Treatment of tumors of skin and subcutaneous tissues of the head and neck mainly follows the treatment guidelines for other locations on the body, with some exceptions. An update will be given on disease staging, surgical margins, and possible adjuvant therapies for common skin and subcutaneous tumors.^{2,3} In contrast to several other parts of the body, wide surgical margins are less often possible or acceptable for head & neck tumors in the face of patient morbidity and prognosis. This requires careful patient work-up, treatment planning, and adjuvant therapies in selected cases. Examples of straight forward surgical cases as well as more advanced reconstructive procedures will be presented (Figure 5 and 6).

Interactive cases

Several head & neck tumor cases will be presented in an interactive step-by-step manner addressing disease staging, treatment options, treatment performed in the presented case, and follow-up.

References

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- 4) S.A. van Nimwegen, J. Kirpensteijn. *Specific Disorders*. In: Tobias & Johnston (eds): *Veterinary Surgery: Small Animal*, 2nd ed, Ch 82, pp 1508-1550. Elsevier 2017.
- 5) S. Ryan, E.G.H. Wouters, S.A. van Nimwegen, J. Kirpensteijn. *Skin and subcutaneous tumors*. In: B. Seguin, S. Kudnig (eds): *Textbook of Veterinary Surgical Oncology*, 1st ed, Ch 4. Wiley-Blackwell 2012.

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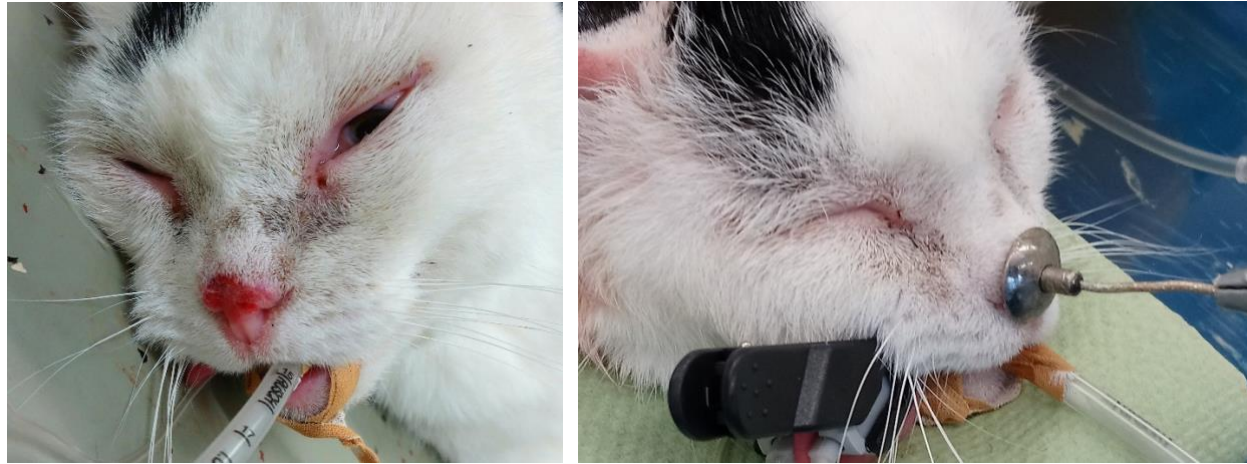


Figure 1. ^{90}Sr plesiotherapy of a superficial squamous cell carcinoma of the nasal planum in a cat.



Figure 2. Rhinoscopic laser excision of an intranasal tumor residue after radiation therapy.



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Figure 3. Large segmental mandibulectomy and lower lip excision for oral melanoma and clinical result 2 weeks after surgery.



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Figure 4. Treatment of tongue tumors. Local excision of a plasma cell tumor in a dog and the result of multimodal (radioactive ^{166}Ho and laser surgery) treatment of a squamous cell carcinoma in a cat.²





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Figure 5. Local excision of a mast cell tumor in the concave skin of the pinna and reconstruction of the pinna using a 'skin fold' advancement flap.⁶



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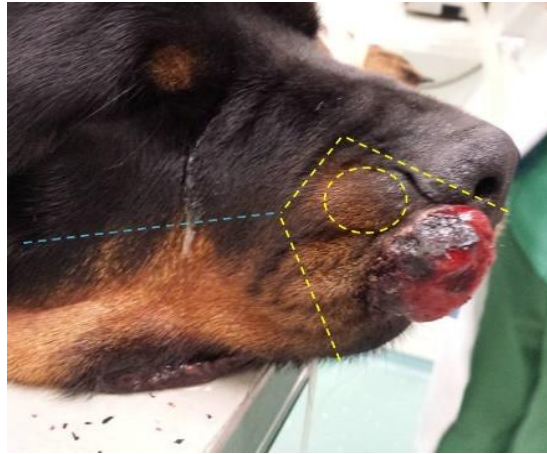


Figure 6. Excision of a high grade soft tissue sarcoma of the upper lip and reconstruction by labial advancement flap.