

## COMPUTED TOMOGRAPHY REPORT

### REFERRING CENTRE

Referring centre: [REDACTED]

Referring vet: [REDACTED]

E-mail: [REDACTED]

Tel: [REDACTED]

### PATIENT INFORMATION

Owner: [REDACTED]

Patient: [REDACTED]

Species: Lagomorph Breed: rabbit Sex: M Age: 9Y Weight: 1.5kg

History: Chronic rhinitis

Region: head

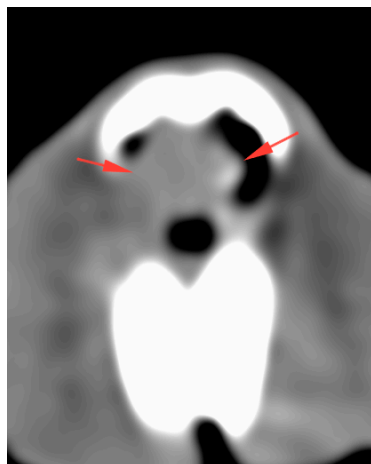
### REPORT

Technical comments: pre and post-contrast series of the head with soft tissue and bone algorithms, with slice thickness of 0.62mm.

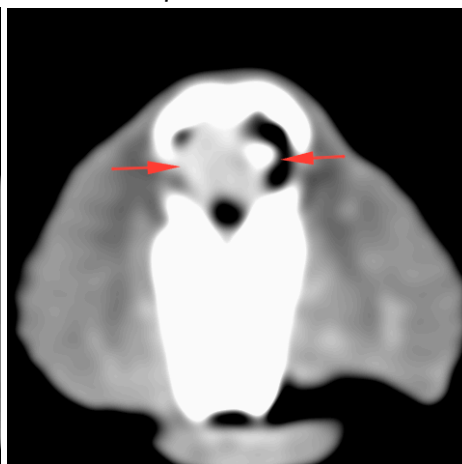
Description:

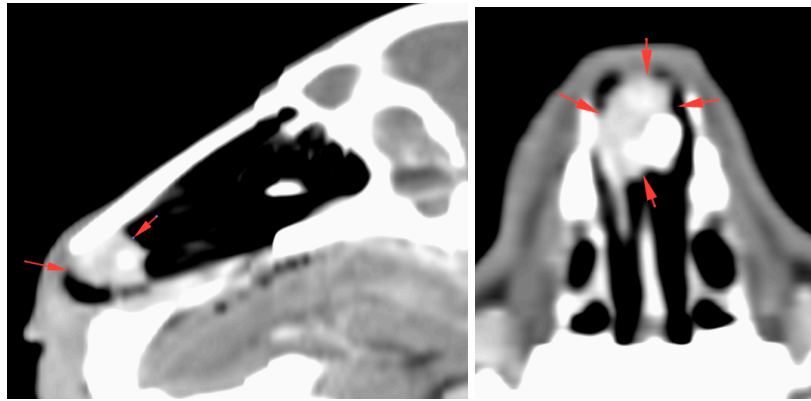
In the rostral aspect of the nasal cavity, there is a lesion (7.3 mm RCd x 5.8 mm DV x 6.2 mm LM), with soft tissue attenuation (72 HU), showing a marked and slightly heterogeneous contrast enhancement (red arrows), with slightly irregular margins. This lesion is associated with the region of the nasal septum (possibly affecting its integrity) occupying both nasal cavities, extending slightly more on the right side, showing a dorsal location in its rostral aspect, remaining in contact with the nasal bone, which appears to be intact. The mass is located 6,7 mm caudal to the nostrils.

*Pre-contrast*

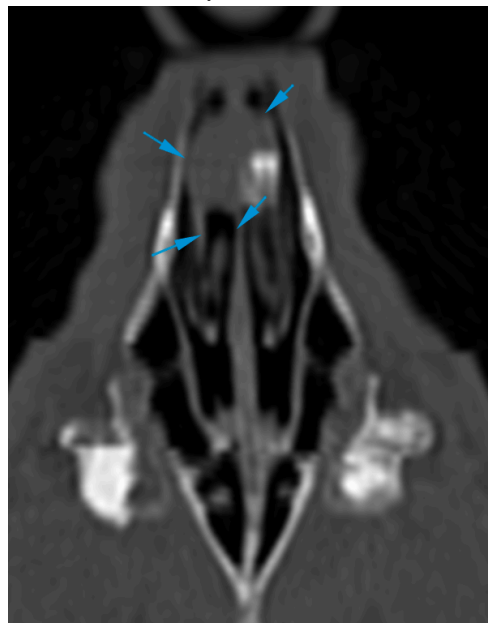


*post-contrast*



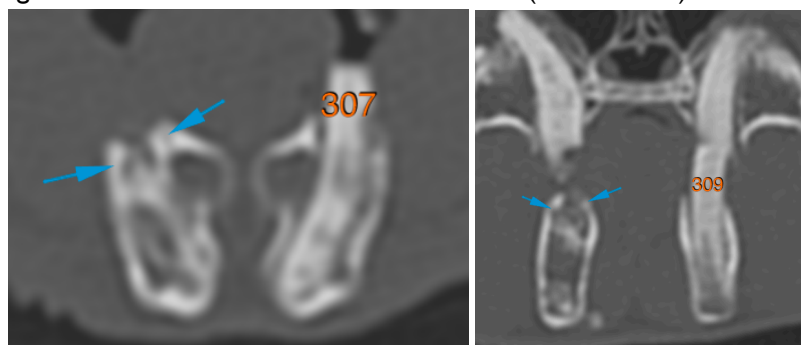


Associated with the presence of this lesion, there is absence/destruction of the rostral nasal turbinates in both cavities (blue arrows), extending slightly caudally in the right nasal cavity, with normal appearance in the most caudal portion of both nasal cavities.

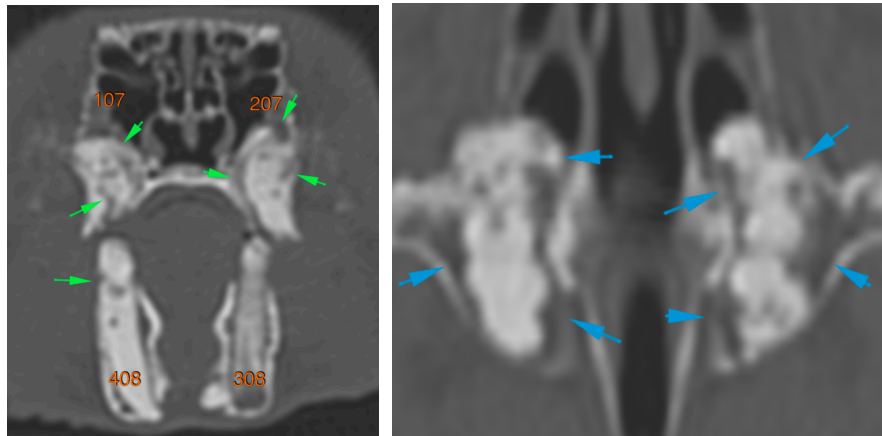


The remaining nasal turbinates and nasal cavity are unremarkable.

At the level of the right lower second premolar PM2 (407) and right lower first molar M1 (409), there is a complete absence of the clinical crown and a severe resorption of the reserve crown, with disruption of the normal architecture of the teeth, with only small pieces of the teeth remaining within the alveolar bone of the mandible (blue arrows).

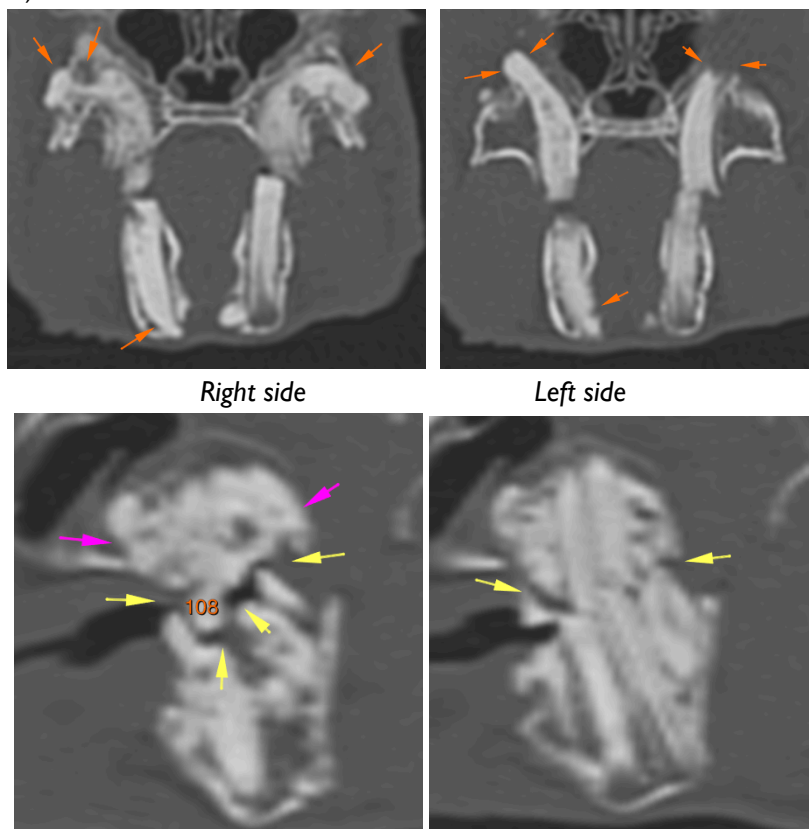


Moderate/marked tooth resorption of the majority of the teeth, with multiple hypoattenuating areas (green arrows) and moderate widening of the periodontal ligament, mainly affecting the upper teeth (blue arrows).



Absence of most of the clinical crowns of the right upper premolars and molars, with only the reserve crown remaining (pink arrows), with the exception of the 4<sup>th</sup> premolar PM4 (108) with the clinical crown remaining. Marked overgrowth with moderate/severe lateral curvature of the reserve crowns of the upper premolars and molars, with the 3<sup>rd</sup> premolars (107 and 207) reaching the zygomatic arch, and those of the 1<sup>st</sup> and 2<sup>nd</sup> molars (109, 110, 209 and 210) reaching the retrobulbar space (orange arrows). In addition, there is overgrowth of the reserve crowns of some of the lower premolar (307, 408) causing focal lysis of the ventral aspect of the mandible (orange arrows).

There is a marked malocclusion on the right side and a moderate malocclusion on the left side (yellow arrows).



Tympanic bullae and ear canals unremarkable. Ocular globes and retrobulbar spaces without evident abnormalities. There are no intracranial abnormalities.

### Conclusions:

1. Mass-like lesion in the rostral aspect of both nasal cavities (with slightly greater extension in the right nasal cavity), centred at the level of the nasal septum, consistent with a neoplastic process (e.g. adenocarcinoma), most likely. A chronic rhinitis process (bacterial, fungal, etc.), with presence of a granulomatous lesion, could also be possible, although less likely.
2. Marked dental disease:
  - a. Generalised marked resorption and overgrowth of the reserve crowns.
  - b. Several teeth partially missing with complete absence of the clinical crown and most of the reserve crown (407,409) and absence of the clinical crown (right upper premolars and molars).
  - c. Severe malocclusion on the right side and moderate malocclusion on the left side.

### Clinical comments/Recommendations:

- Rhinoscopy and biopsy for analysis of the nasal lesion (cytology/histopathology vs. bacterial/fungal culture).

The main differentials would include: neoplasia (several clinical cases of adenocarcinomas affecting the nasal cavity have been described), bacterial infections, granulomas, less likely, due to *Mycobacteria* sp. or fungal infections. Assessment of the cytology results are recommended for appropriate culture.

The lesion is located at 6,7 mm from the entrance of the nostril. In order to perform rhinoscopy in most rabbits, small diameter endoscopes (1.0 / 1.9 mm, rigid or semi-flexible) are needed. If these are not available, blind biopsies can be taken, taking into account the location of the mass in relation to the entrance of the nostril.

It is recommended to perform this procedure with the animal intubated. Rabbits are obligate nose breathing animals, taking into account that the lesion occupies practically the entire right nasal cavity, and a large part of the left nasal cavity, the patient may show respiratory difficulty under anaesthesia if tracheal intubation is not performed (endotracheal tubes can be used, or alternatively, laryngeal masks).

- Dental disease.

The dental disease is in an advanced stage [stage 5, according to Böhmer E, 2015, defined as severe displacement of the apical part of multiple teeth, missing or markedly altered clinical crowns, with complete or partial dissolution of intraoral parts of the teeth, local osteomyelitis (periapical infection) of several teeth, among other features].

In these cases (always assess the patient's quality of life), dental extraction of the teeth with signs of infection is required (in most cases the surgery must be performed in several phases, assessing the surgical/anaesthetic time invested in each surgery, to minimise the risks associated with the procedure). It is highly recommended to send part of the tissue (tooth or abscess capsule) to be cultured for bacteriological study (culture and antibiogram), in order to establish an appropriate antibiotic therapy (in cases of osteomyelitis, antibiotherapy is of long duration).

Control studies are recommended to assess the duration of antibiotherapy.

Analgesia in these cases is of vital importance (animal welfare, avoiding side effects such as gastrointestinal stasis), both intraoperatively (consider performing blocks with lidocaine/bupivacaine) and postoperatively (use of opioids during a short postoperative period, long-term management with partial opioids combined with anti-inflammatory drugs).

Monitorization of the patient: continuous check-ups are recommended (approximately every 3 months), performing a thorough palpation of the maxilla and mandible, intraoral examination with endoscopy (depending on the results of the oral cavity examination under anaesthesia). Similarly, assess the position of the eyeballs. Indeed, due to the alterations shown in the last premolars/molars, the probability of developing a retrobulbar abscess is high (in the physical examination we would observe exophthalmia or reduced retropulsion of the affected eye).

If you have any additional questions regarding the imaging findings or medical recommendations, please do not hesitate to contact us.

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