ORAL MELANOMA IN A RED FOX (*Vulpes vulpes*)

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INTRODUCTION

Oral melanoma has been reported in several mammalian species, including companion animals (dog, cat, and ferret), and also in the African lion. To our knowledge, there are no reported cases of oral malignant melanoma in the red fox (*Vulpes vulpes*).

CLINICAL FINDINGS

An adult female red fox was admitted to the RSPCA Stapeley Grange Wildlife Centre and presented severely lethargic and stuporous. Physical examination revealed emaciation, severe dehydration, pale mucous membranes, hypothermia.

As part of a general triage, an oral cavity assessment was performed, revealing missing teeth, tooth fractures and wear (Fig. 1A). A dark-coloured, 5 x 3 cm, sessile and asymmetrical mass involving mostly the right side of the soft palate, caudal hard palate, glossopalatine arch, and fauces was identified (Fig. 1B).

Taking into consideration all the above findings, euthanasia was performed. During necropsy, samples from the oral mass and the surrounding tissue were collected and submitted for analysis.

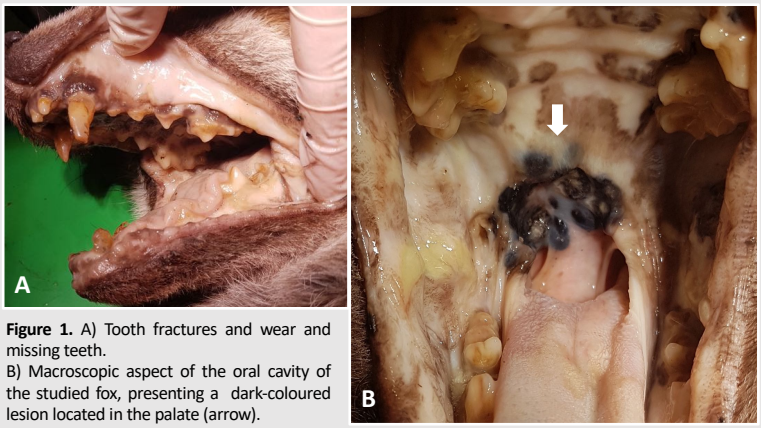

Figure 1. A) Tooth fractures and wear and missing teeth.
B) Macroscopic aspect of the oral cavity of the studied fox, presenting a dark-coloured lesion located in the palate (arrow).

HISTOPATHOLOGICAL FINDINGS

The tissues collected were fixed with 10% neutral buffered formalin, embedded in paraffin and processed for light microscopy according to routine histopathological technique (Haematoxylin and Eosin – HE).

Histopathology of oral tissues revealed large amounts of cells with dark pigment in the cytoplasm (Fig. 2A), which masked the cellular and nuclear morphology (Fig. 2B). It was dentified as melanin after being removed by bleaching methods (Fig. 2C and 2F), and presented positivity for Masson Fontana staining (Fig. 2D and 2G). These cells invaded neighboring salivary glands and muscle (Fig. 2E-G) and regional lymph nodes. A diagnosis of oral melanoma with invasion of adjacent tissues was made.

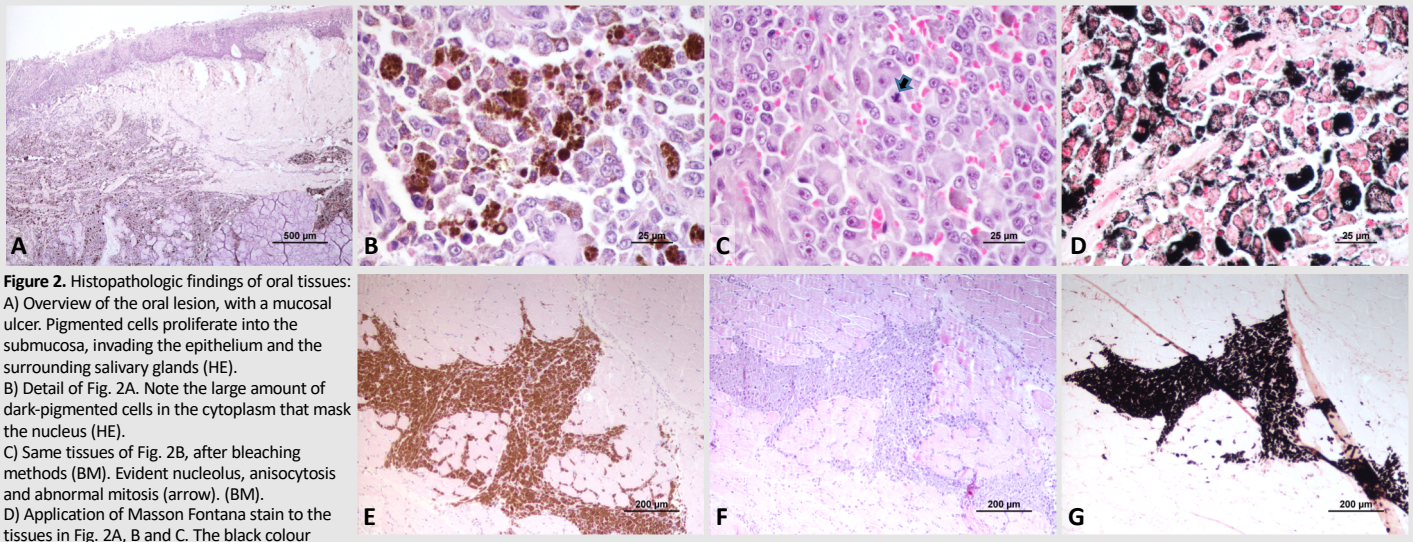

Figure 2. Histopathologic findings of oral tissues:
A) Overview of the oral lesion, with a mucosal ulcer. Pigmented cells proliferate into the submucosa, invading the epithelium and the surrounding salivary glands (HE).
B) Detail of Fig. 2A. Note the large amount of dark-pigmented cells in the cytoplasm that mask the nucleus (HE).
C) Same tissues of Fig. 2B, after bleaching methods (BM). Evident nucleolus, anisocytosis and abnormal mitosis (arrow). (BM).
D) Application of Masson Fontana stain to the tissues in Fig. 2A, B and C. The black colour confirms that the observed pigment is melanin (Masson Fontana).
E) Melanoma cells invade the muscle near the oral lesion seen in the Fig. 2A. (HE).
F) Same tissues from Fig. 2E, after BM.
G) Tissues from Fig. 2E, with Masson Fontana stain.

DISCUSSION AND CONCLUSION

To our knowledge, this is the first report of oral malignant melanoma with invasion of adjacent tissues in wild red fox (*Vulpes vulpes*). This case highlights the importance of assessing oral cavity during general triage of wild animals. Moreover, researching this disease in non-domestic species might bring new insights into the etiopathogenesis of oral melanoma.

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