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## INTRODUCTION

Cyclopia consist in the external presentation of a single synophtalmic orbit. It is within the spectrum of facial malformations resulting from holoprosencephaly, and it is the most severe, being incompatible with life. The pathogenesis of the disease consist in the lack of cleavage of the brain and as consequence of facial structures, such as the ocular field, during embryonic development. The causes are diverse, chromosomal and genetic defects and teratogenic factors have been described. The prevalence is low and its believed that pig is the species with the highest presentation followed by the human species.

## OBJECTIVES

- To dissect and describe morphologically the case.
- Understand how, why and at what moment of embryological development is given, as well as its possible causes.
- To know the various forms of presentation and the prognosis of a fetus with facial defects.

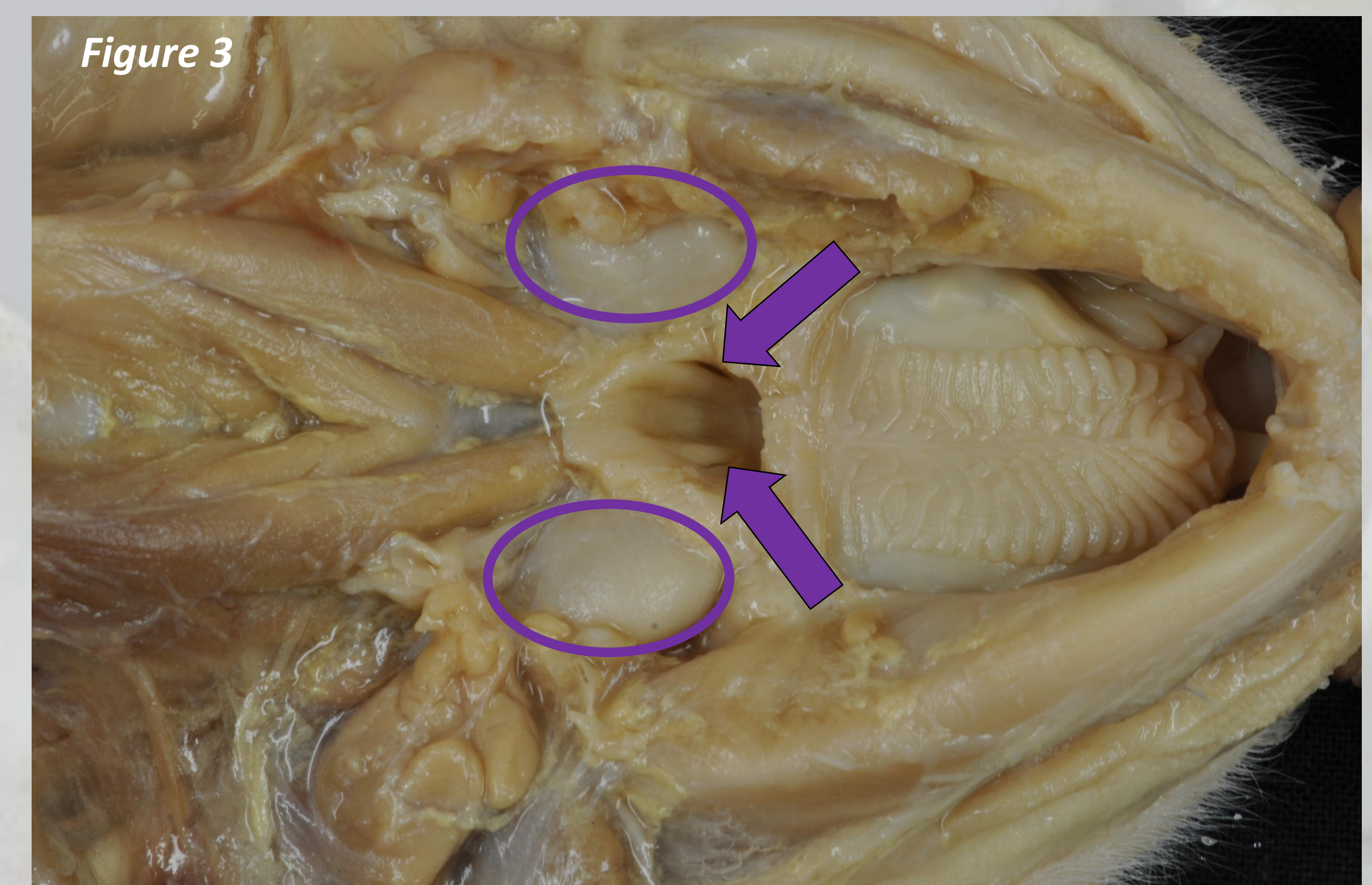
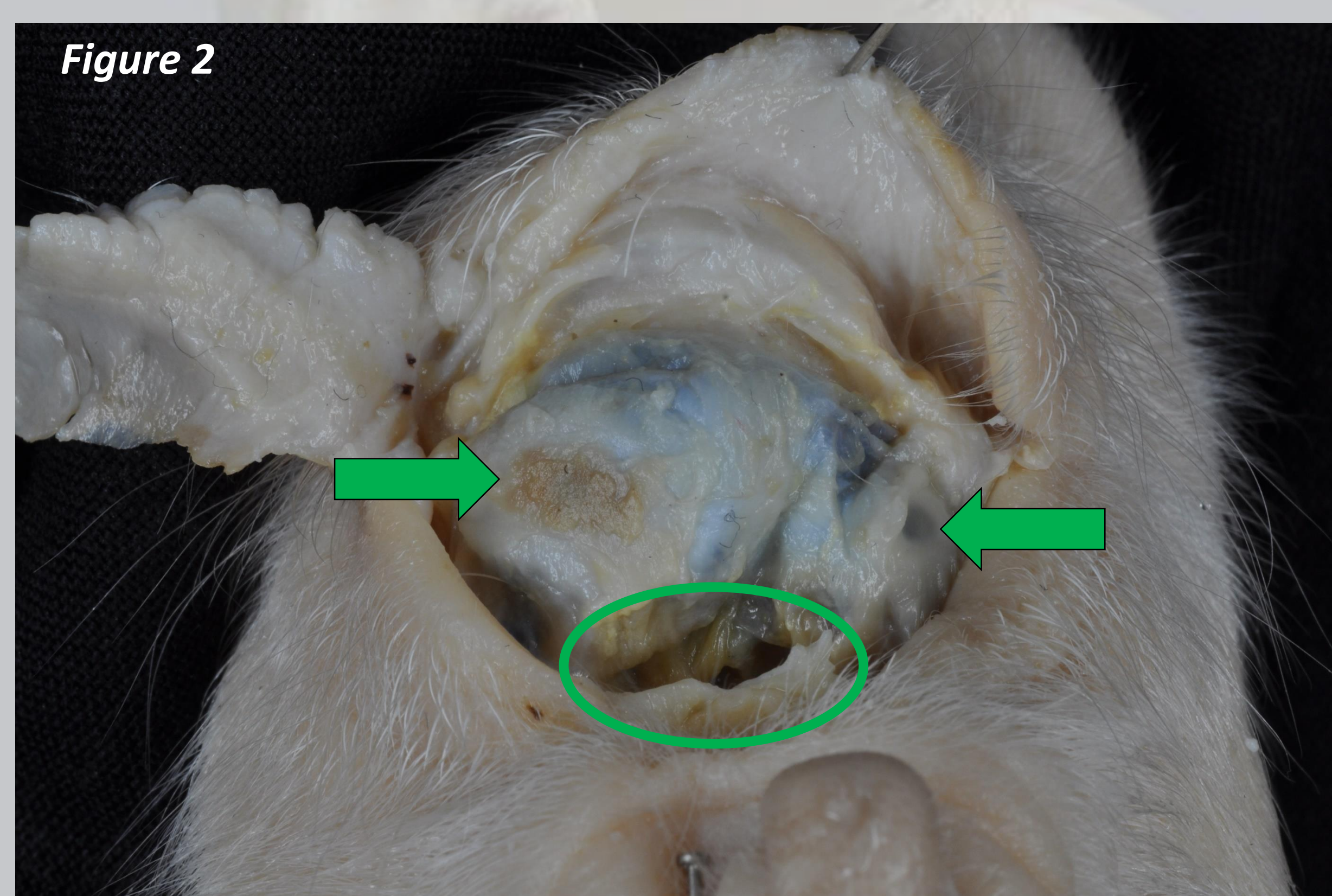
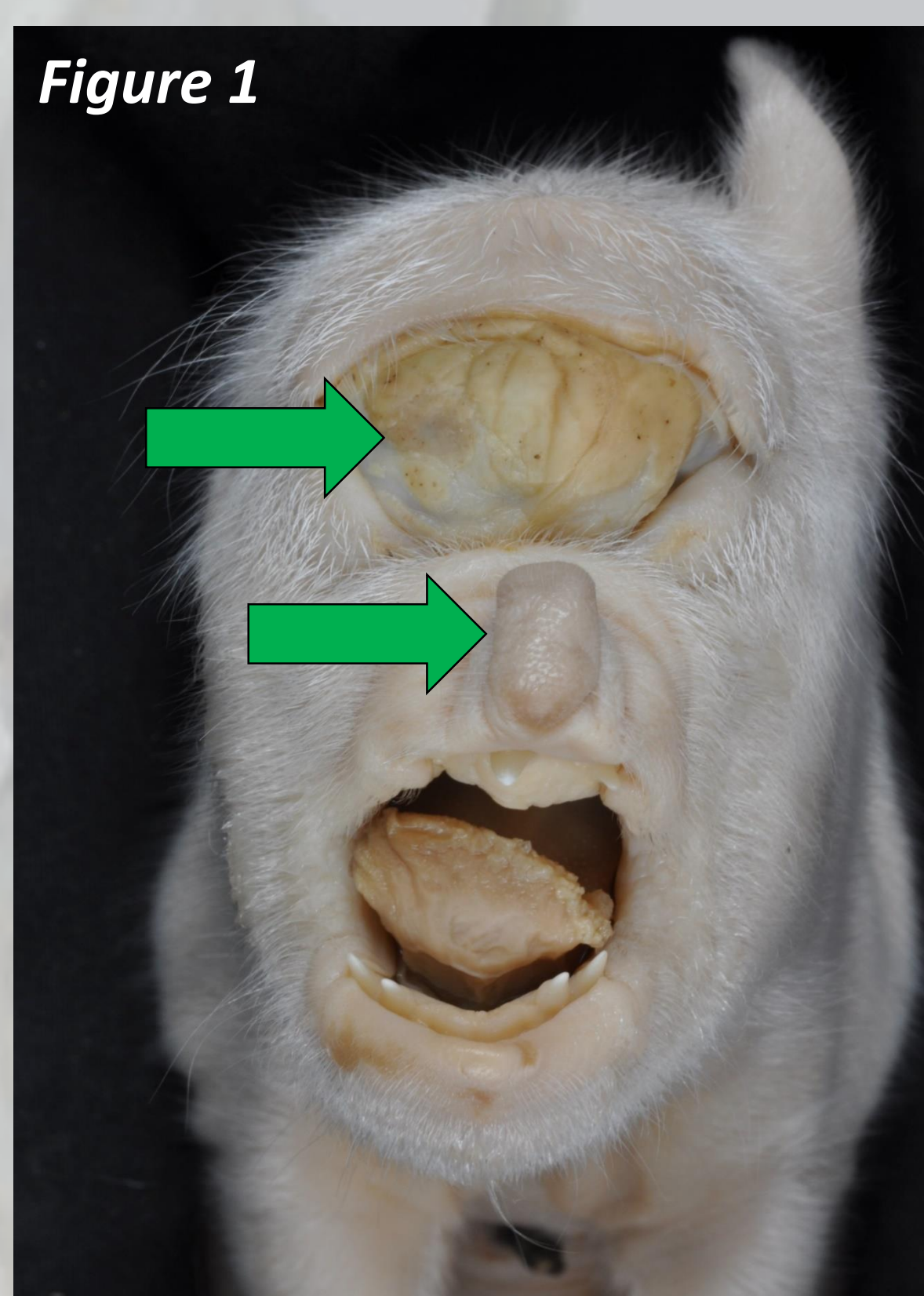
## MATERIAL AND METHODS

Female swine presenting a single orbit (Figure 1). An external examination, a CT and a 3D reconstruction and a dissection of the animal were performed at the Veterinary Hospital and the Veterinary Anatomy Unit of the UAB.

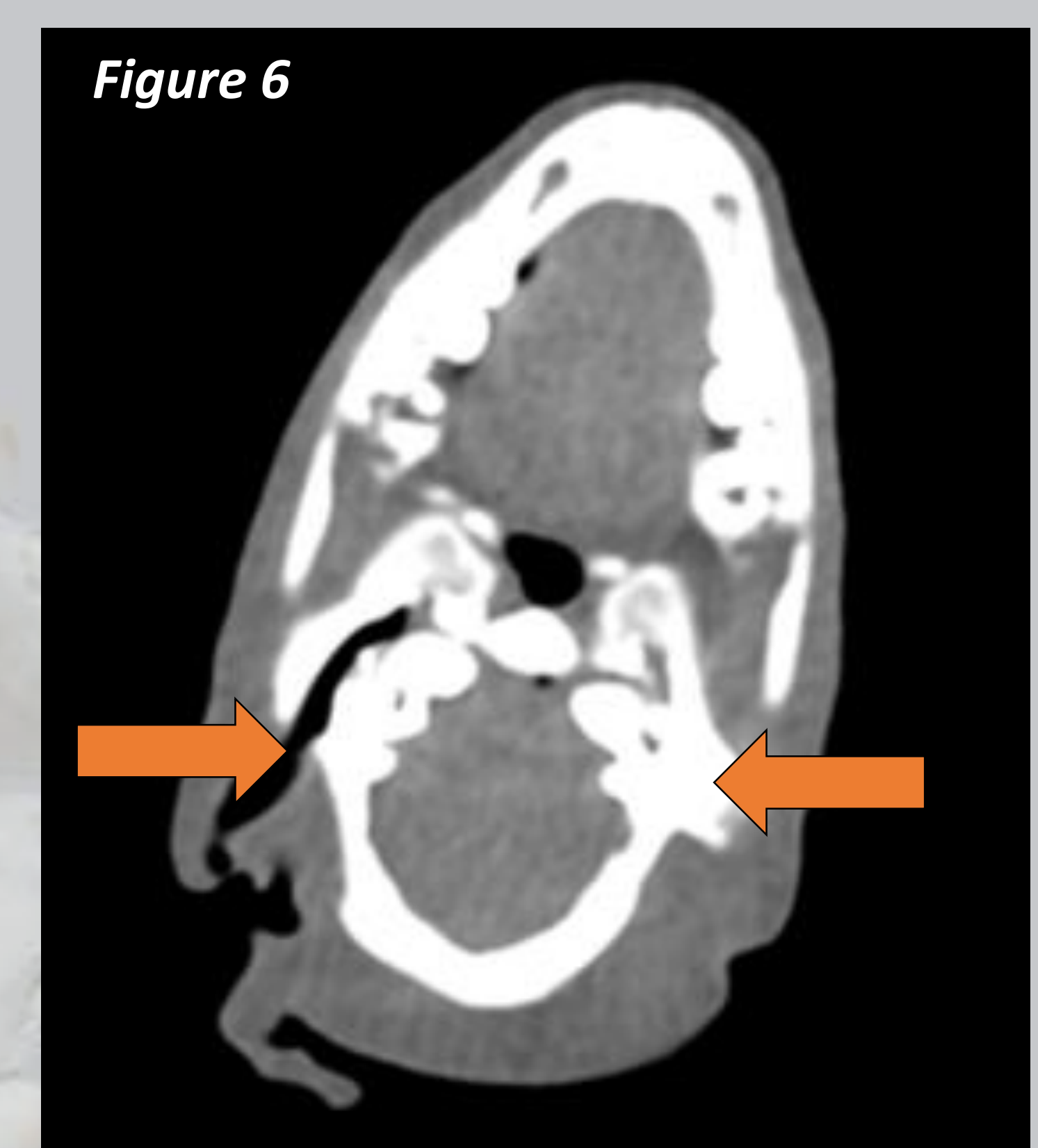
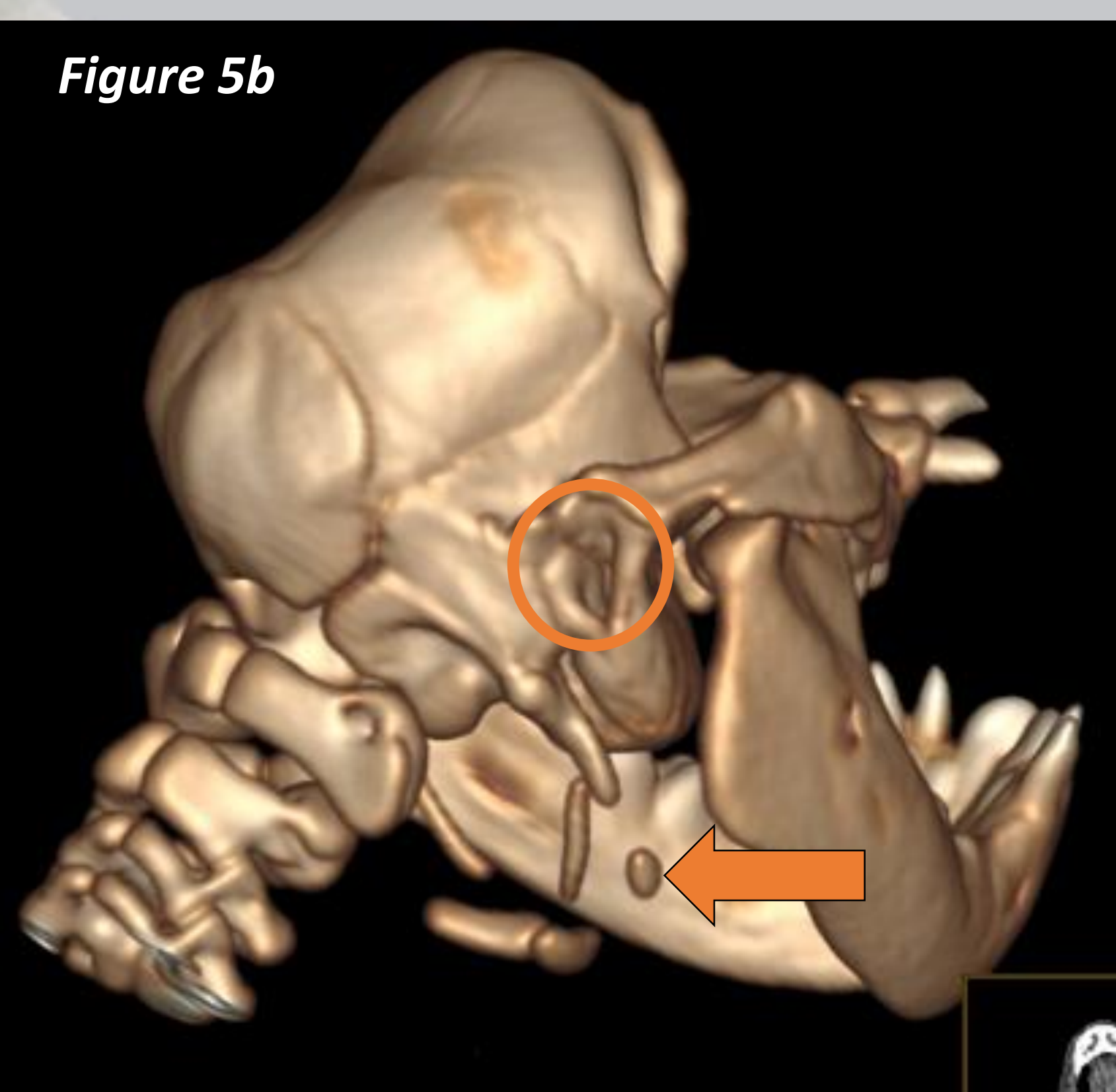
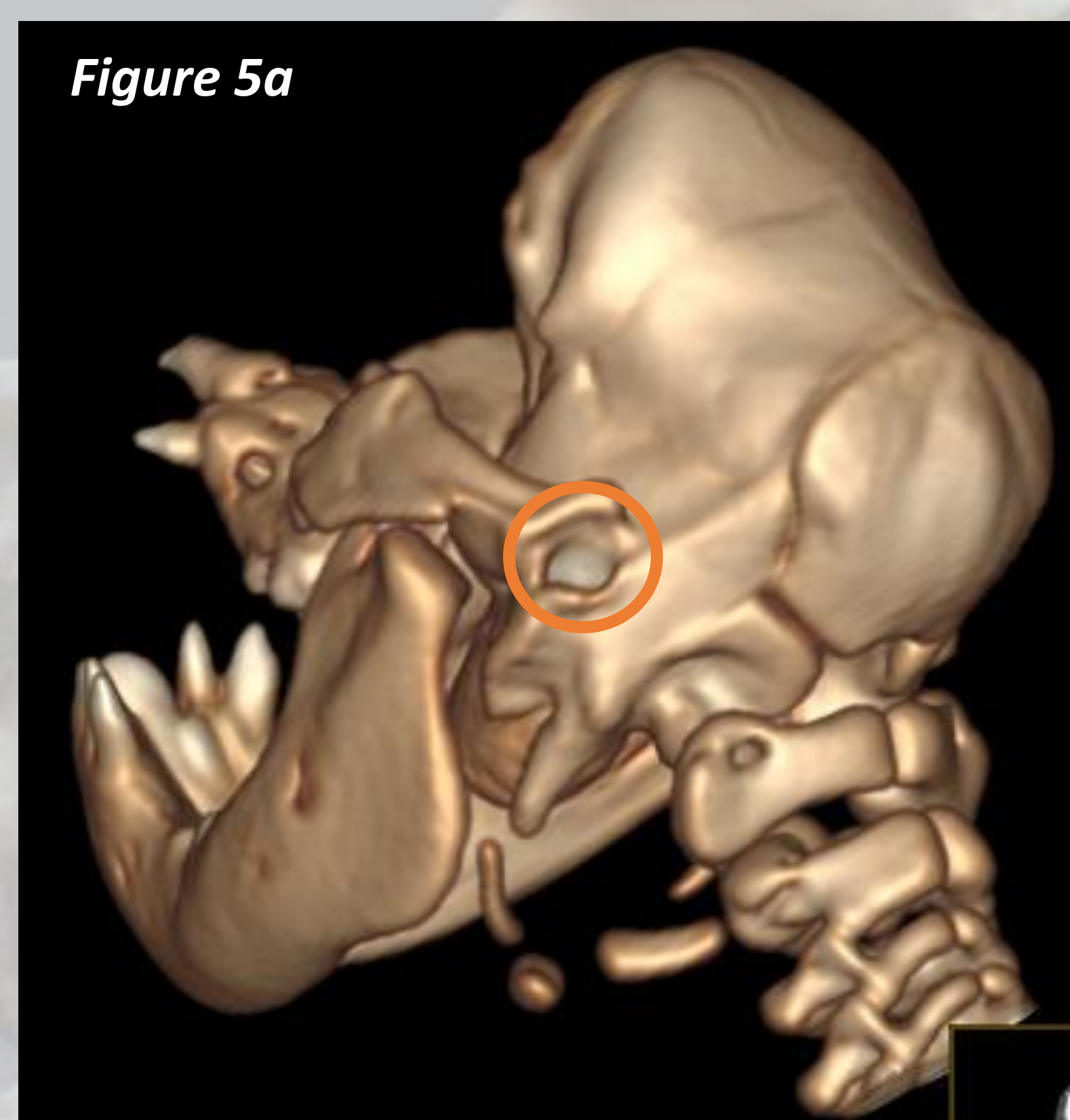
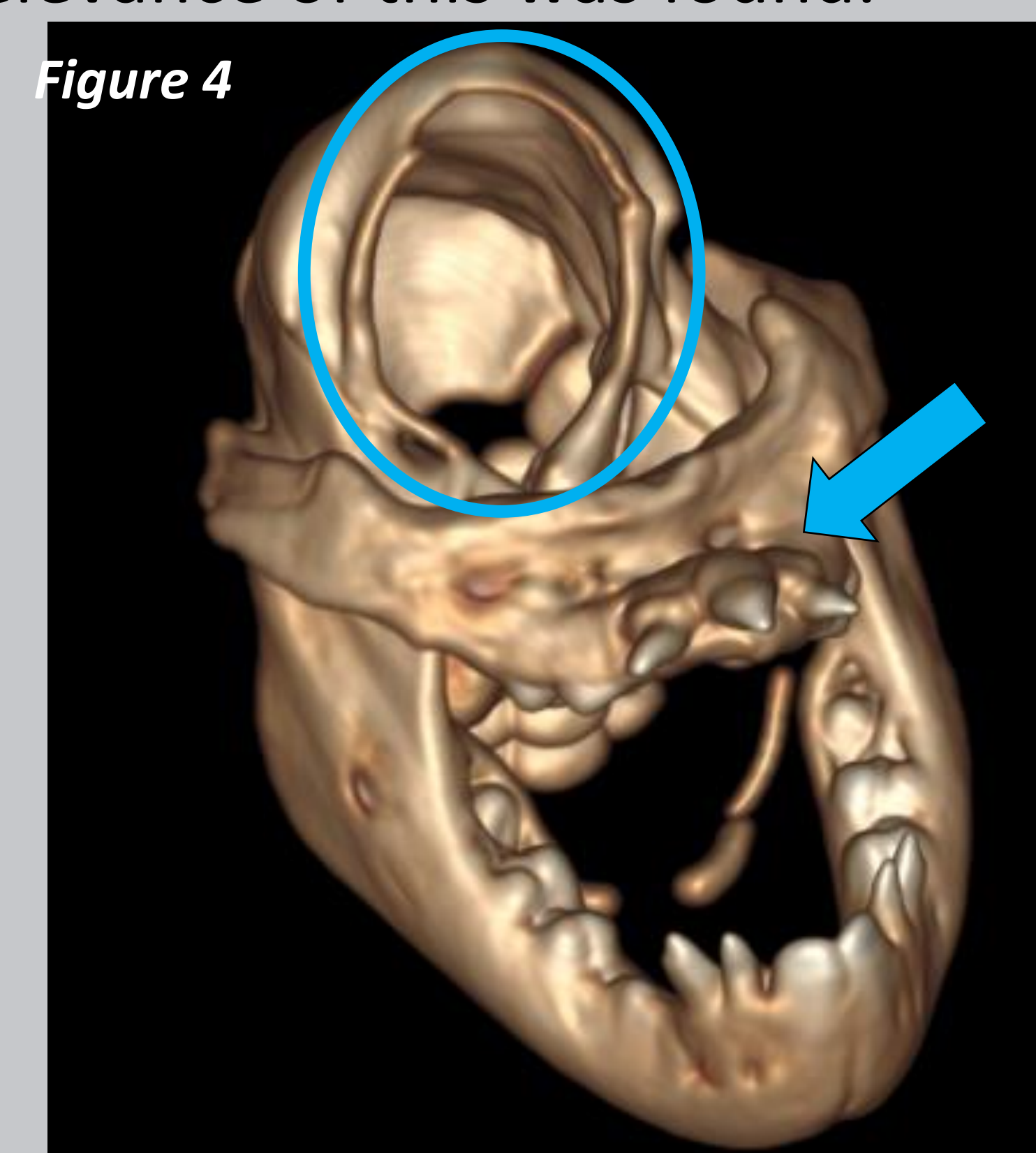
## RESULTS AND DISCUSSION

Considering all the external and internal features, it can be affirmed that it is a case of cyclopia.

**Single central orbit (fig.1)** covered with a membrane, which, when removed, allows to see **2 fused ocular globes (fig.2)**, the large right and the small left with its pupil, and the **third eyelid (fig.2)**. Synophtalmia is common to see in cyclops. Small **proboscis (fig.1)** ventral to the orbit. Usually it appears dorsal to the orbit and of bigger size. **Nasopharynx (fig.3)** ends in a blind bottom, as there is no nasal cavity, but **entrance to the pharyngotympanic tubes (fig.3)** are seen. Normal **timpanic bullas (fig.3)**. Normal thoracic and abdominal organs.



**Incomplete frontal bone** in the region of the **single orbit (fig.4)**. Absence of nasal bone, ethmoid and rostral bone. The absence of midline structures causes poor conformation of **maxillary and incisive bones (fig.4)**. **Normal left external acoustic meatus (fig.5a) with air inside (fig.6)** but **right external acoustic meatus was collapsed (fig.5b)** and **without air inside (fig.6)**. Hyoid bone with **additional segment** on the right side (**fig.5b**). Some cyclops exhibit alterations in the derivative organs from embryonic pharynx, however in this case no more relevance of this was found.



## CONCLUSIONS

- ✓ In the studied cyclops there is a clear affectation of cranio-facial structures. These lesions result incompatible with life.
- ✓ The case is and example of typical cyclops, but with some differential characteristics.
- ✓ No other alterations have been found in the body of the animal.