

Enucleation: is ligation necessary?

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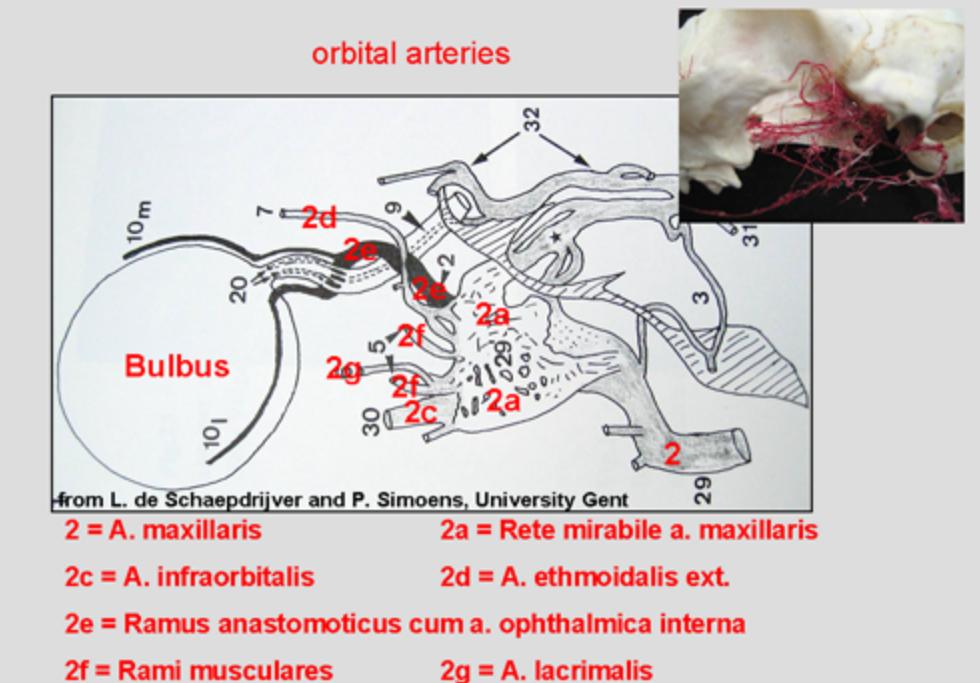
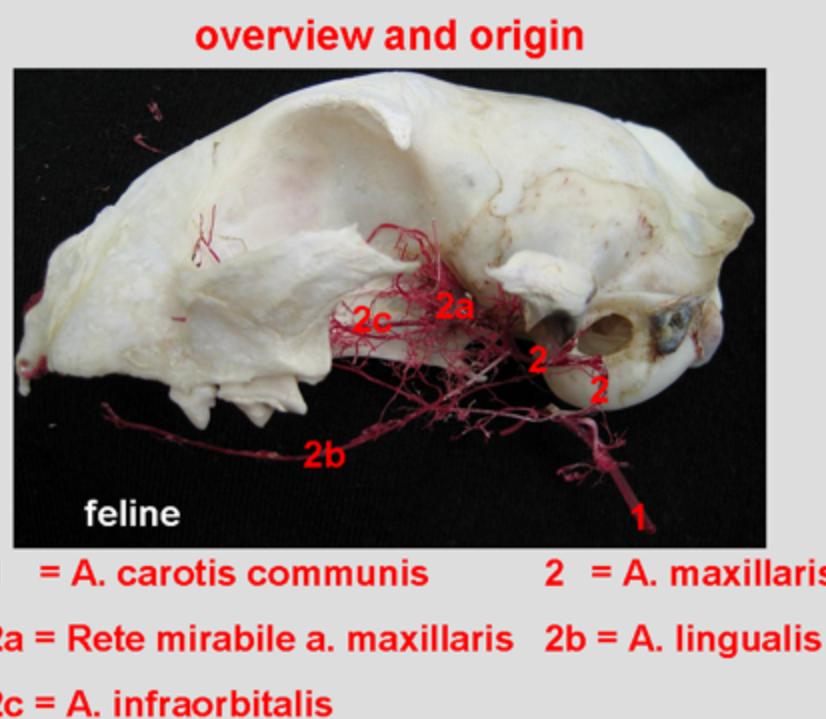
Purpose:

- to present and discuss an enucleation technique for small animals without ligation posterior to the globe as well as the anatomical background

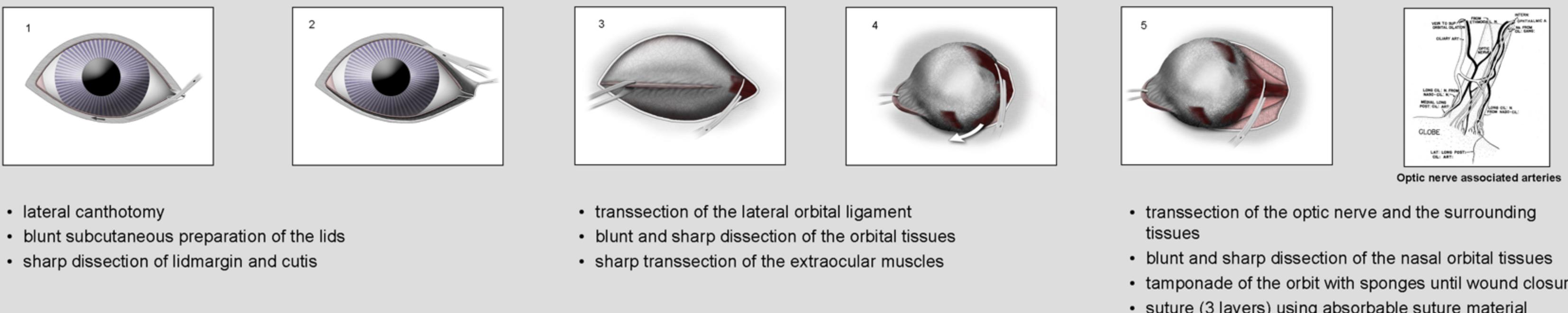
Review of cases: 215 cases of enucleation

(119 canine, 79 feline, 13 rabbits, 2 guinea pigs, 1 rat, 1 hamster)

- all enucleations were performed without ligation posterior to the globe
- follow up time ranged between 5 months and 6.5 years
- none of the 215 enucleations developed complications related to the surgical technique
- none of the cases showed excessive bleeding from the orbit that could not be stopped during surgery
- no major blood loss due to the surgical technique was observed



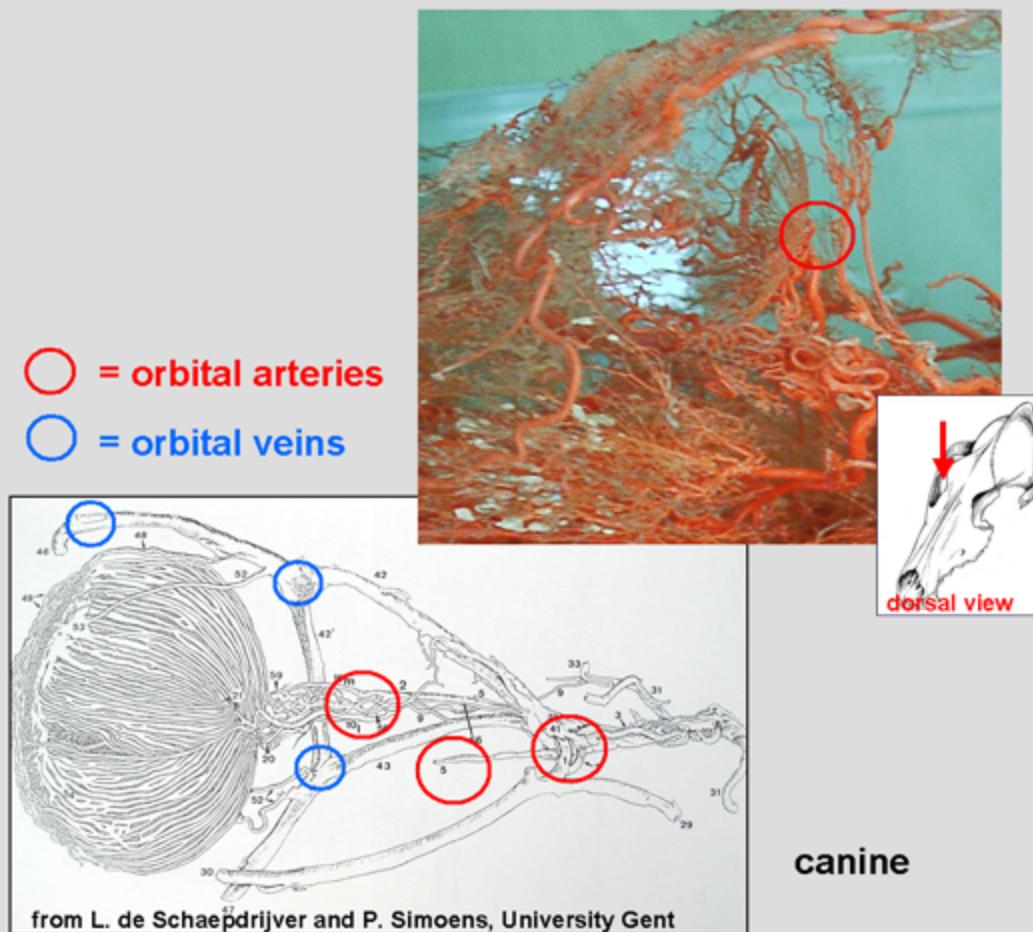
surgical technique: modified "lateral approach"



- lateral canthotomy
- blunt subcutaneous preparation of the lids
- sharp dissection of lidmargin and cutis

- transsection of the lateral orbital ligament
- blunt and sharp dissection of the orbital tissues
- sharp transsection of the extraocular muscles

- transsection of the optic nerve and the surrounding tissues
- blunt and sharp dissection of the nasal orbital tissues
- tamponade of the orbit with sponges until wound closure
- suture (3 layers) using absorbable suture material



Discussion and Conclusion:

- orbital vasculature in dogs and cats consists of vessels of smaller diameter only
- ligation of the retrobulbar tissues including the optic nerve can only result in a mass ligation which will be relatively ineffective
- the attempt of ligating or placing a clamp may result in tension on the optic nerve and further trauma to the orbital tissues and potentially to the optic chiasm
- based on anatomical considerations a posterior ligation is not necessary when an enucleation is performed in small animals

1 = A. carotis communis

2 = A. maxillaris

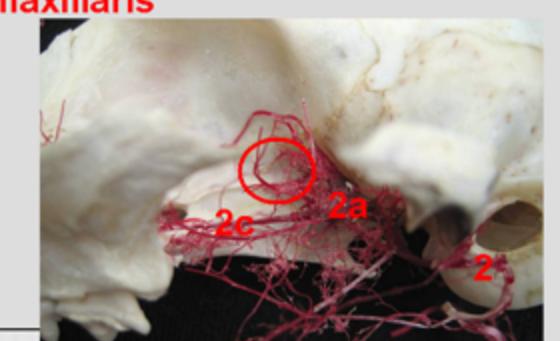
2a = Rete mirabile a. maxillaris

2b = A. lingualis

2c = A. infraorbitalis

○ = orbital arteries

○ = orbital veins



feline

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