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, 76 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 lid margin 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 tissue
- tamponade of the orbit with sponges until wound closure
- suture (3 layer) 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 uneventful
- 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

Literature:


De Schepper RJ, Vergelijkende Morfologische Studie van de retinale Circulatie bij de Hond, de Kat en de Vezel. PhD study, 1993


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