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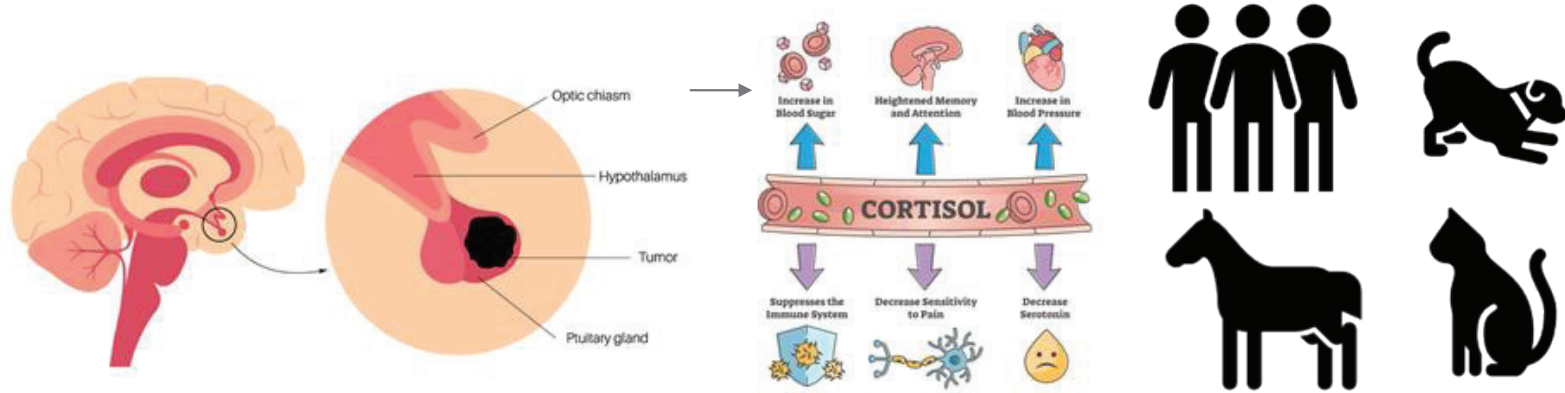


UNIVERSITY OF
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Comparative pathology of pituitary neuroendocrine tumors in canine and human Cushing’s disease

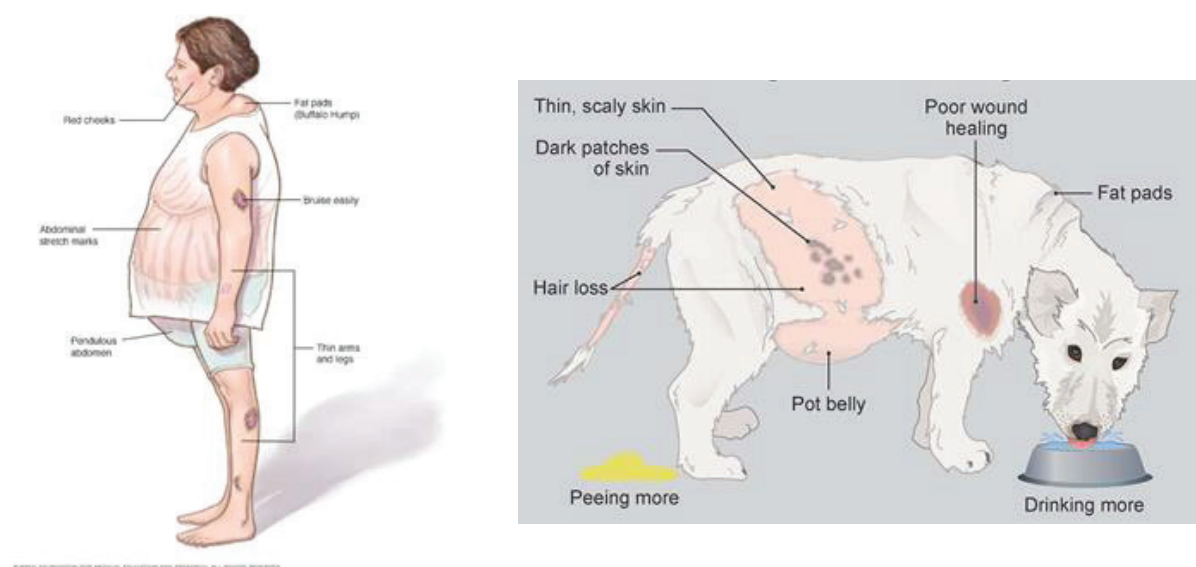
Using biomarker imaging and in-vitro patient-derived organoid lines, I investigate the comparative aspects of Cushing’s disease between humans and canines through tumor targets and drug response.

Cushing’s disease is a multispecies endocrine disorder



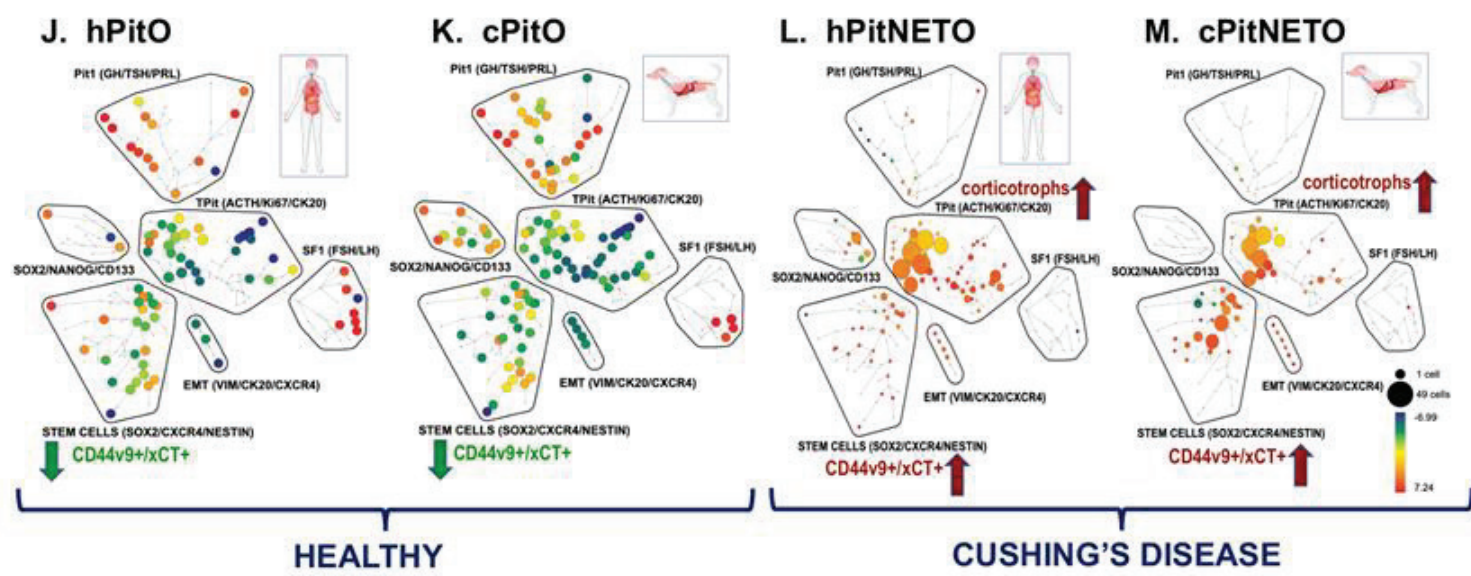
Pituitary neuroendocrine tumors (PitNETs) lead to excessive production of cortisol, causing Cushing’s disease (CD)

Canines and humans have same clinical presentations



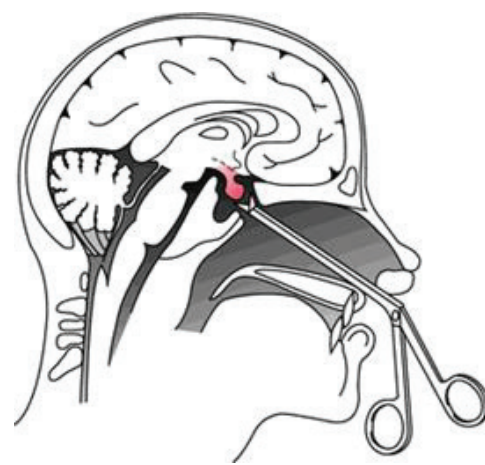
Cushing’s disease (CD) is most similar in these species

Same pituitary cell lineages present in both species

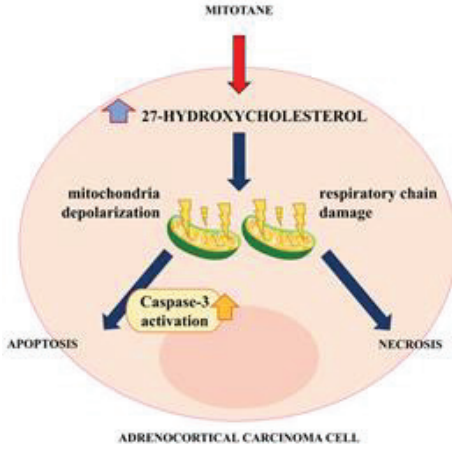


Indicates comparable PitNET biology in dogs and humans

CD treatments have low efficacy against PitNETs



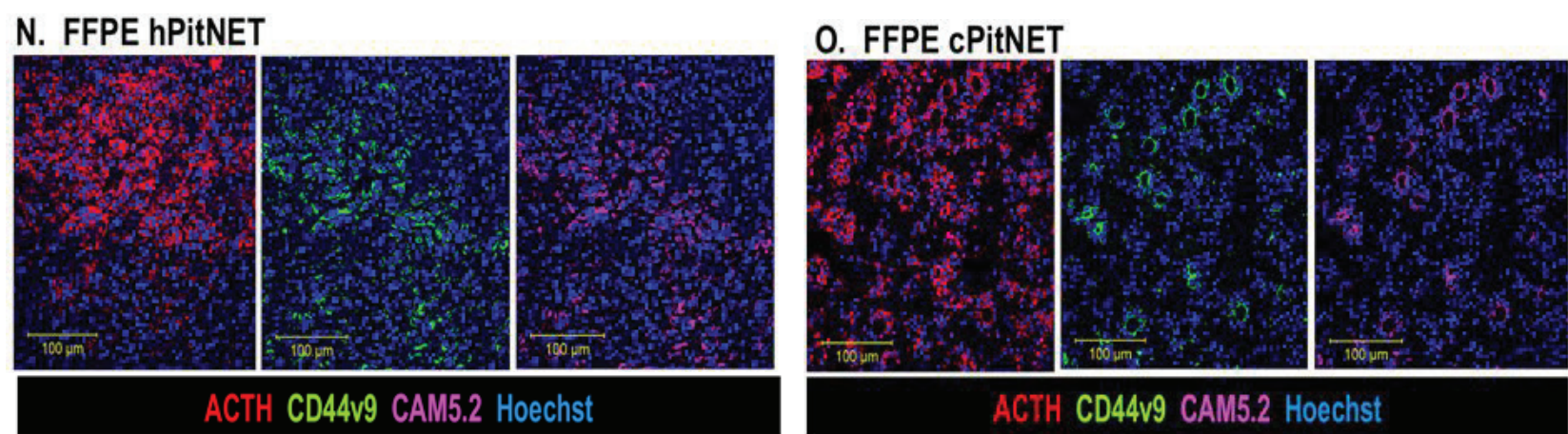
50% tumor recurrence after surgery



CD drugs target adrenal gland, not pituitary

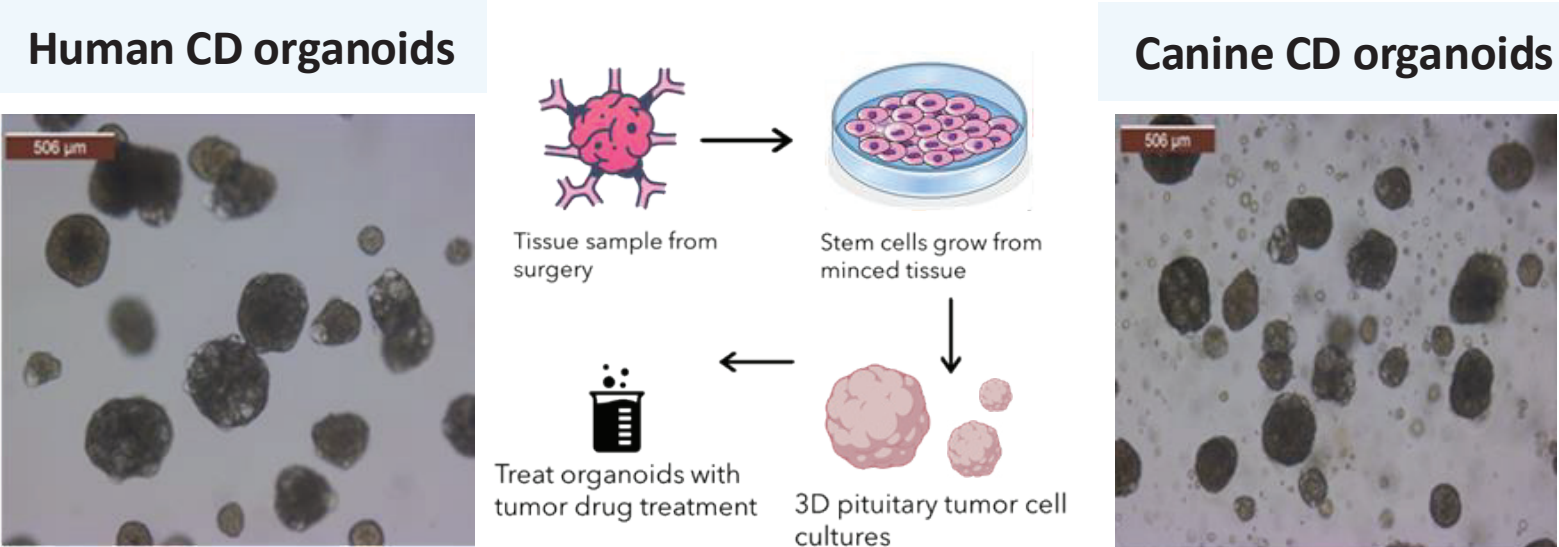
Need for treatments that can kill PitNET cells

Biomarker imaging can identify tumor drug targets



Drugs that attack targets can then be tested

Patient-derived organoids model drug response in CD



Drugs can then be further tested in CD clinical trials