

# RETROSPECTIVE STUDY ON CAUSES OF DEATH IN FERRETS AT THE SDPV (2000–2024)

Veterinària  
UAB



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## INTRODUCTION

The domestic ferret (*Mustela putorius furo*) has become a common companion animal and a relevant experimental model. Its particular physiology predisposes it to specific diseases. Despite growing clinical interest, systematic data on its mortality remains limited.

## OBJECTIVES

- To retrospectively analyze causes of death in domestic ferrets submitted to the SDPV-UAB between 2000 and 2024.
- To classify diagnoses by organ system or pathological category.
- To assess temporal trends and identify the most prevalent diseases.
- To evaluate associations with sex, age, and reproductive status.
- To interpret results in light of current literature and clinical relevance.

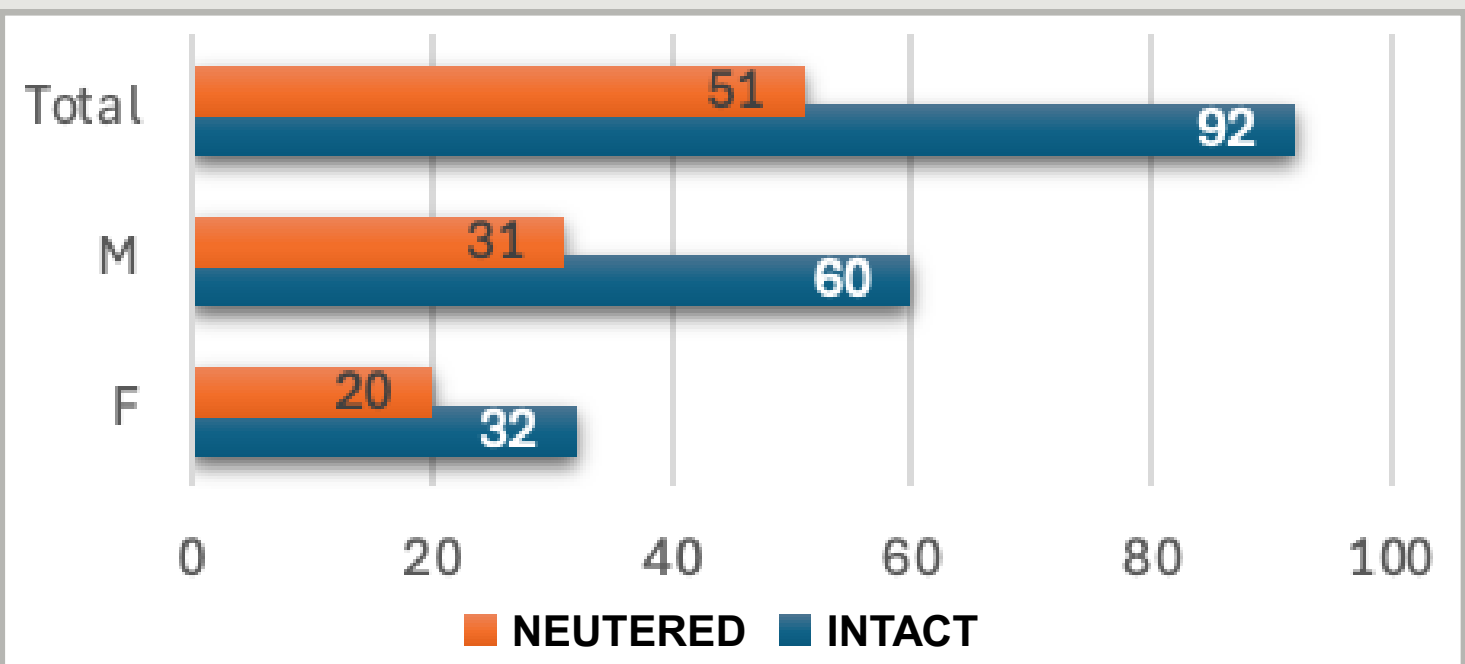
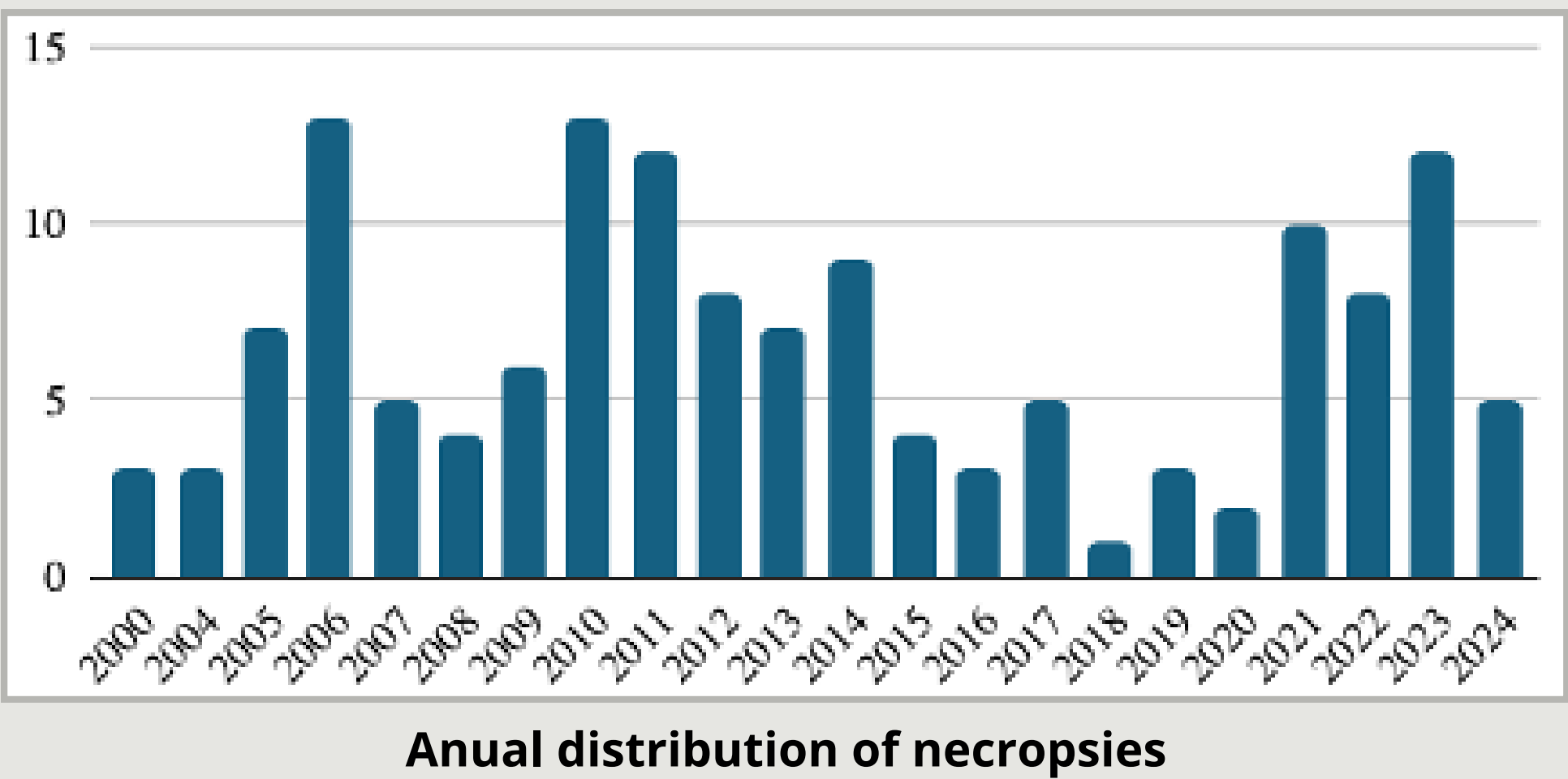
## MATERIALS AND METHODS

Retrospective study of 143 ferrets necropsied at SDPV-UAB. Standardized post-mortem protocols included gross pathology, histology, and complementary tests (IHC, ZN, cultures). Diagnoses were grouped by organ/system. Data: sex, age, reproductive status, diagnosis.

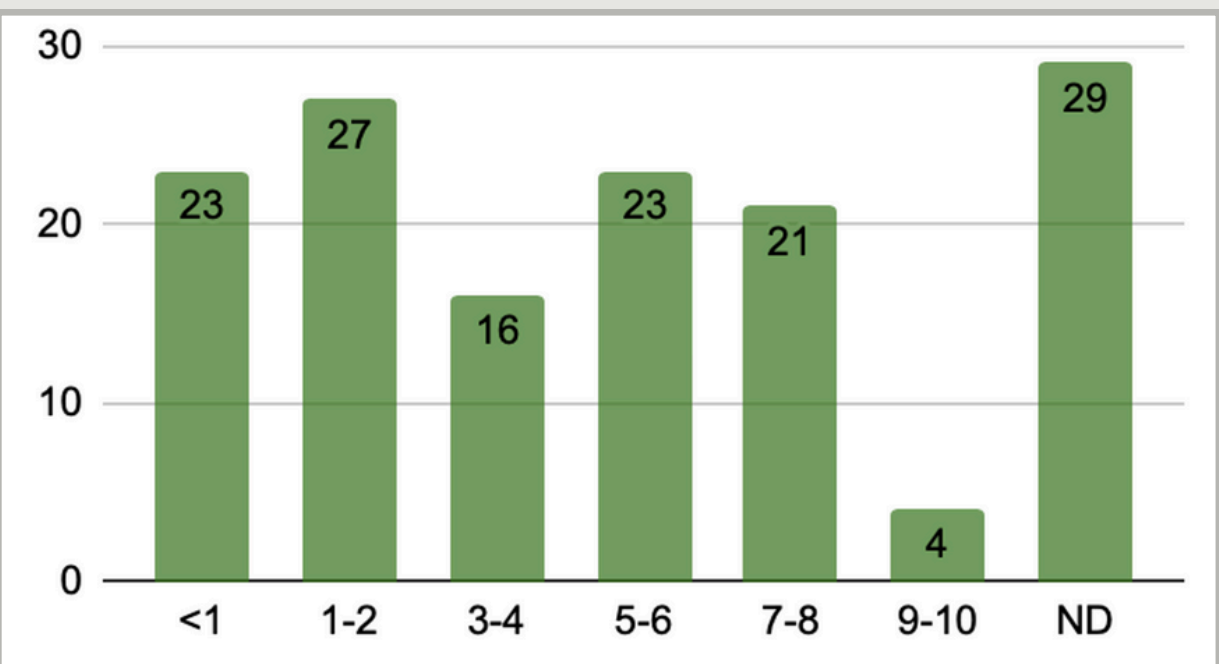
## RESULTS & DISCUSSION

### GENERAL DESCRIPTION

Between 2000 and 2024, a total of 143 ferret necropsies were performed at the SDPV-UAB, with an irregular annual distribution. Intact males and natural deaths were predominant, with mortality concentrated in young and middle-aged individuals.



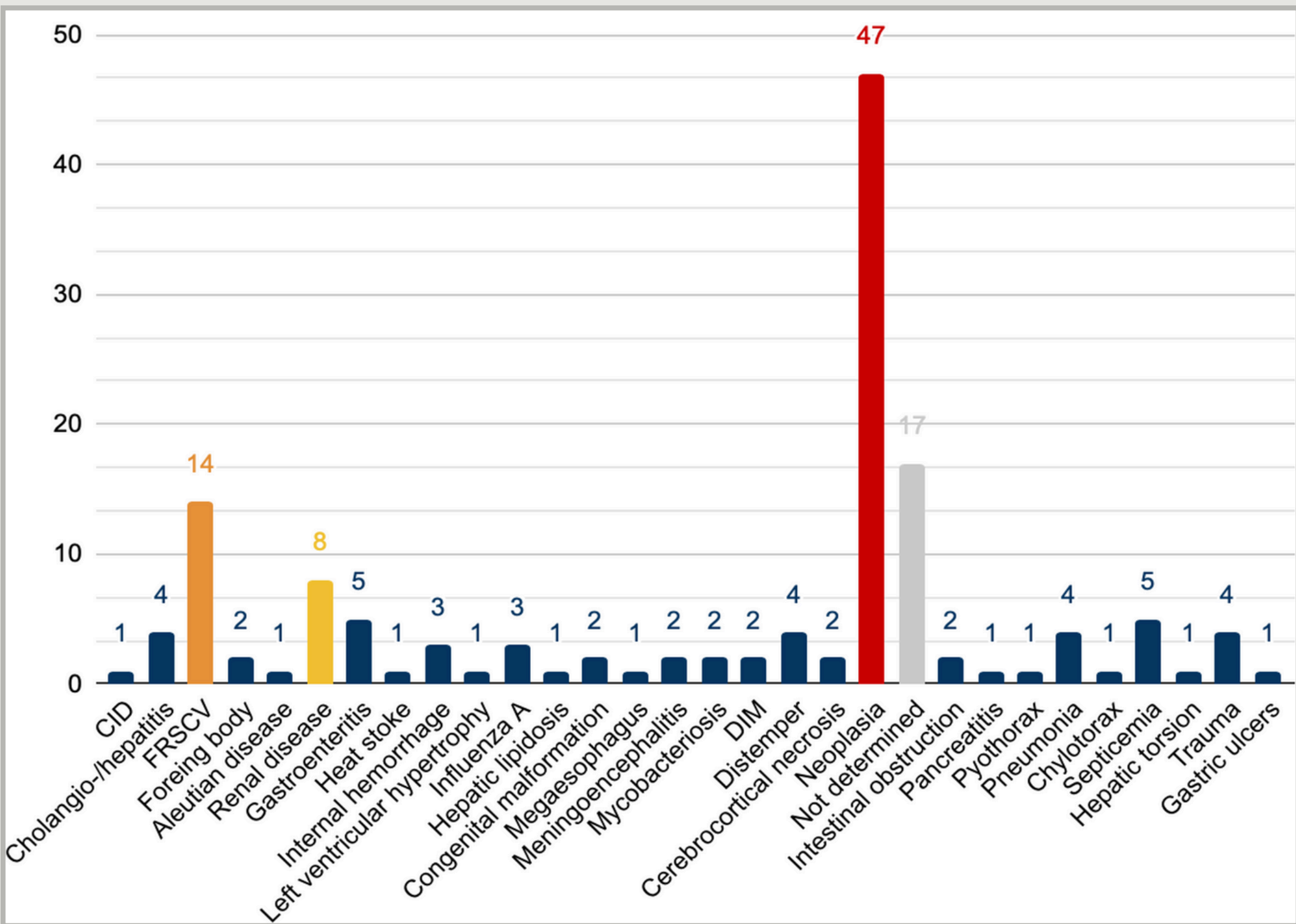
Breakdown by sex and reproductive status



Age distribution of cases

### CAUSES OF MORTALITY

Neoplasms were the leading cause of death (32.9%), with insulinoma, adrenocortical carcinoma, and lymphoma being the most prominent. These were followed by FSCV and kidney disease (5.6%).



Causes of mortality identified in necropsied ferrets (2000–2024).

• **INSULINOMA (11.2%)**: Most common neoplasm, with higher prevalence in neutered ferrets of middle age (6–8 years), especially males. Its origin is linked to dysfunction of pancreatic  $\beta$ -cells and it manifests with persistent hypoglycemia.

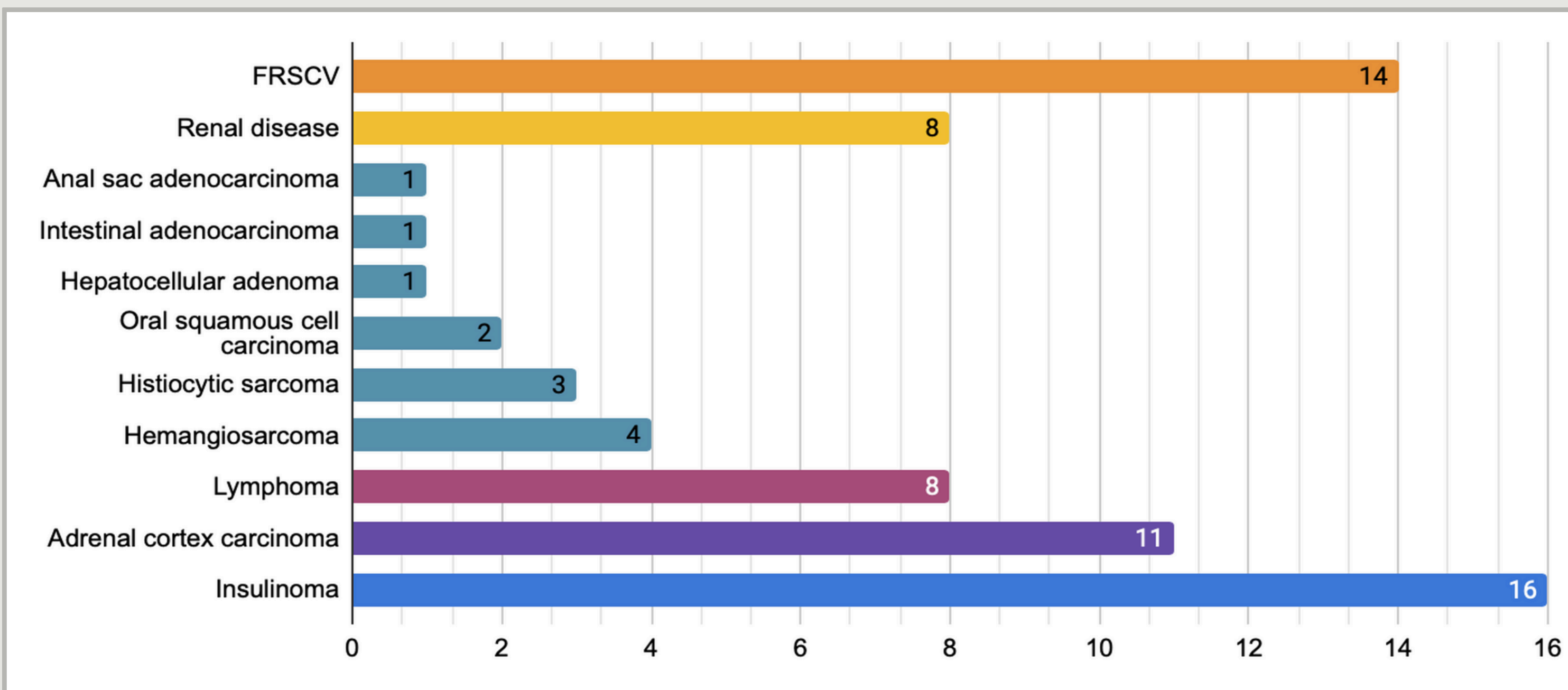
• **FERRET SYSTEMIC CORONAVIRUS (FRSCV) (9.8%)**: merging disease with a multiorgan pyogranulomatous presentation, predominantly affecting young ferrets (<1 year). It has high lethality.

• **ADRENOCORTICAL CARCINOMA (7.7%)**: Second most frequent neoplasm, associated with surgical neutering, with high prevalence in spayed females. It causes clinical signs consistent with hyperadrenocorticism.

• **LYMPHOMA (5.6%)**: Third most common neoplasm, primarily affecting thoracoabdominal structures. It may appear in young ferrets (aggressive mediastinal form) or in adults (more chronic course).

• **KIDNEY DISEASE (5.6%)**: Geriatric condition involving glomerular, tubular, and interstitial damage, often in advanced stages and associated with comorbidities.

• **OTHER CAUSES ( $\leq 1.4\%$ )**: Includes disseminated idiopathic myofasciitis (DIM), a severe juvenile inflammatory disease; mycobacteriosis, of zoonotic concern; canine distemper, reported only before 2007; and congenital diseases, uncommon but relevant in young ferrets.



Summary of the most frequent pathologies and neoplastic diagnoses in necropsied ferrets

## CONCLUSIONS

- Neoplasia** is the most frequent cause of death, highlighting the key role of oncology in ferret medicine.
- Adrenocortical carcinoma** is strongly associated with neutering, particularly in females.
- FRSCV** is a severe emerging disease, especially relevant in young ferrets.
- Kidney disease** is common in geriatric ferrets and often occurs alongside other comorbidities.
- Less frequent conditions, such as **disseminated idiopathic myofasciitis** or **mycobacteriosis**, are of notable clinical or zoonotic importance.
- No cases of **canine distemper** have been diagnosed since 2006, suggesting effective vaccination strategies.
- Post-mortem examination** remains essential for improving diagnosis, prevention, and clinical management.