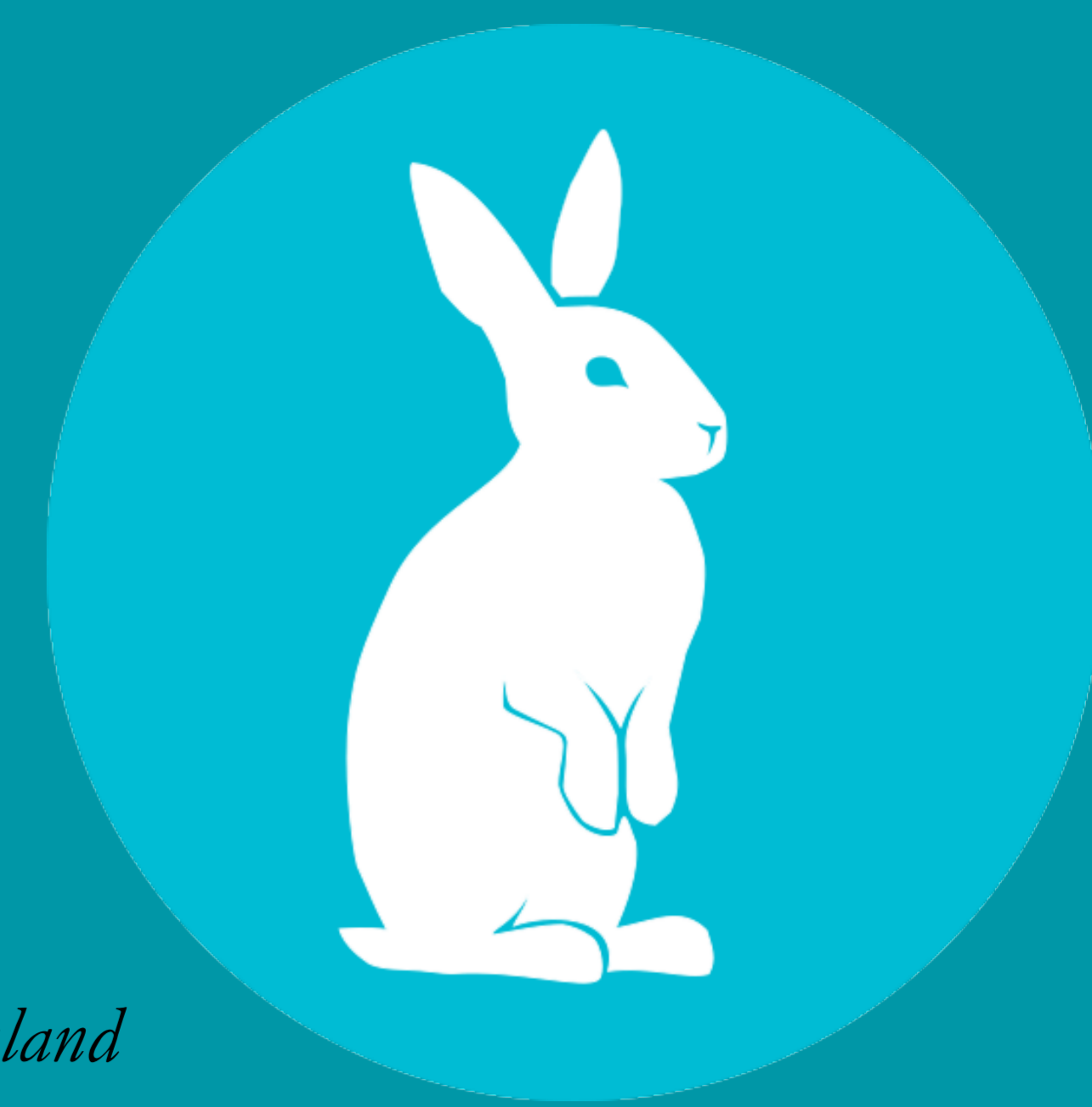


Prospective Survey of Neoplastic and Non-Neoplastic Uterine Disorders in 116 Domestic Rabbits (*Oryctolagus cuniculus*)

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INTRODUCTION

- Prevalence of uterine disorders, especially tumours, is reported to reach 60–80 % in rabbits over 4 years of age
- High prevalence and the need for neutering female rabbits for uterine disease prevention are recently questioned
- Commonness of uterine pathologies was studied in 116 Finnish domestic rabbits

MATERIALS AND METHODS

- Uterine samples were collected from 94 rabbits neutered, died or euthanised with no suspected reproductive system disease (NoRD), and from 22 rabbits neutered or euthanised with a suspected reproductive disease (RD)
- Majority of the samples came through collaborating veterinarians and from breeders between September 2014 and November 2015
- All uteri were examined systemically, blinded to animal data, for macroscopic and histological alterations

RESULTS

- In the NoRD group (n=94), uteri of 31 rabbits (33 %) displayed histopathological findings and 14 rabbits (15 %) had neoplasms
- Uteri of 11 rabbits (12 %) in NoRD group evinced histopathological findings with no macroscopic alterations
- Amongst all animals of known age (NoRD and RD; n=110), the relative risk of a uterine neoplasia was 8.5 times higher among rabbits over 3 years of age (prevalence 42 %) compared to younger animals

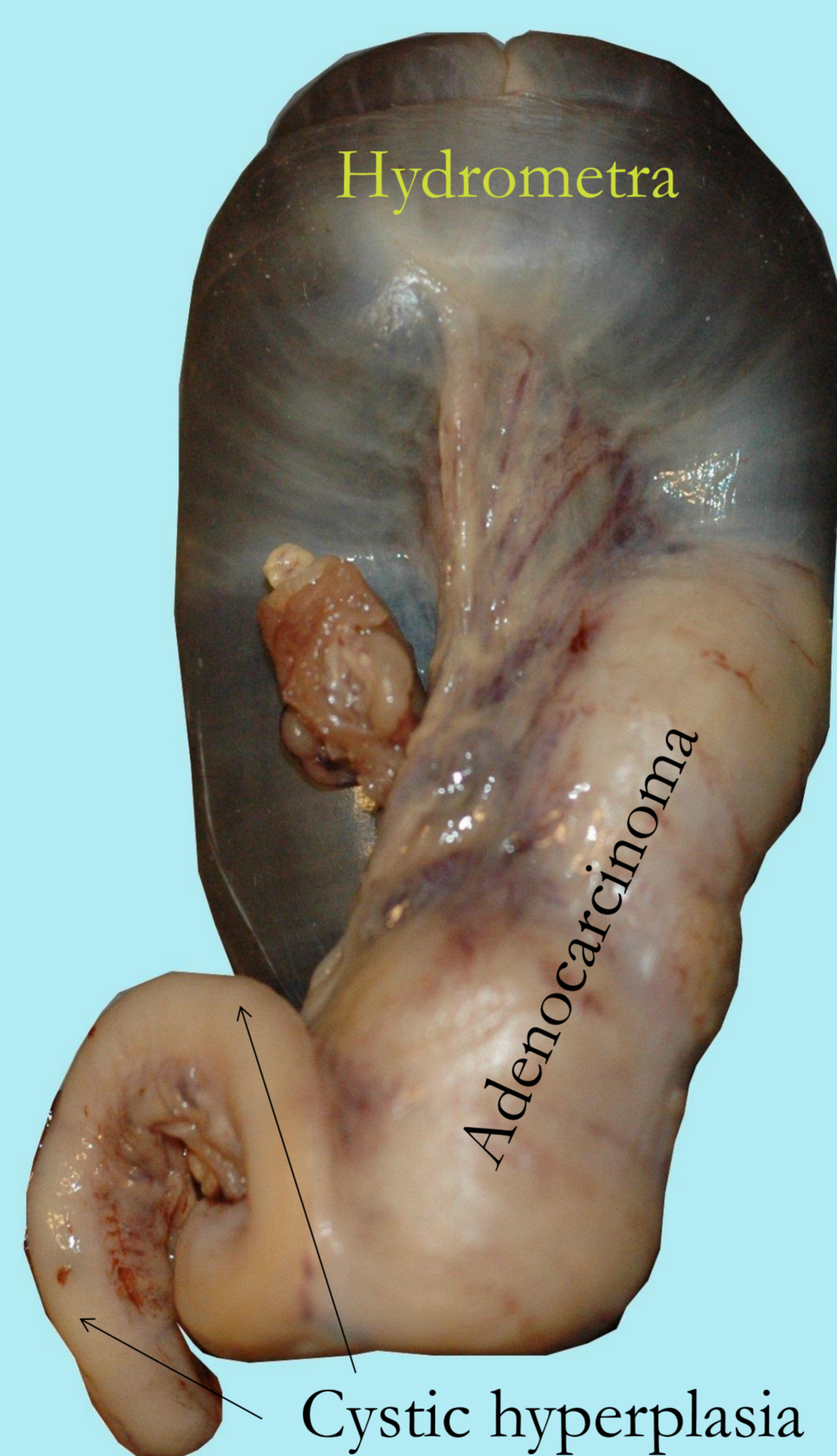


Figure 1. Uterus of a 5-year-old mixed breed rabbit with 3 different pathological diagnoses.

Table 1. Number of histopathological diagnoses in 116 Finnish domestic rabbits with (RD) or without (NoRD) suspected reproductive system disease (rabbits categorised by the age of 3 years).

PATHOLOGICAL DIAGNOSIS	NoRD		RD		N	
	Age ≤ 3 y	Age > 3 y	Age ≤ 3 y	Age > 3 y		
NEOPLASTIC	Adenocarcinoma	1	7	0	12	20
	Adenoma	1	3	0	0	4
	Other ¹	1	1	0	1	3
NON-NEOPLASTIC	Cystic hyperplasia	7	17	0	17	41
	Polyp	3	2	0	2	7
	Other ²	2	4	3	7	16

Some rabbits exhibited several findings (2–4) and are therefore included in more than one diagnosis group.

¹ Carcinoma in situ (n=1), leiomyoma (n=1), leiomyosarcoma (n=1)

² Hydrometra (n=5), adenomyosis (n=4), serosal inclusion cyst (n=3), granulomatous inflammation (n=1), osseous metaplasia (n=1), pyometra (n=1), Wolffian duct cyst (n=1)

CONCLUSIONS

- Uterine disorders are common in domestic rabbits even without a suspected reproductive system disease
- The risk of uterine neoplasia is markedly increased after 3 years of age
- Macroscopically normal uterus may have pathological changes
- Ovariohysterectomy is recommended to all non-breeding rabbits

