Danish Veterinary Cancer Registry

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For LIFE, Denmark

Workshop on canine cancer registration
The Norwegian School of Veterinary Science
Oslo, Norway 2010
Aims

To establish a population based registry in order to study the distribution of neoplasms in Danish dogs and cats with regard to

- type
- gender
- breed
- geographical distribution

- environmental factors
- treatment evaluation
Duration and collection

May 15th 2005 – December 1st 2005
Pilot study – 18 private small animal clinics and hospitals

March 2006
Open to public – now 62 registered clinics

Cases collected

2827 neoplasms from dogs
410 neoplasms from cats
Data collection

- Incident registry - multiple neoplasm separately
- Recurrences currently not submitted
- All diagnostic methods included

<table>
<thead>
<tr>
<th>Identification number</th>
<th>Date of diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Most valid basis of diagnosis</td>
</tr>
<tr>
<td>Date of birth/age</td>
<td>Topography/location</td>
</tr>
<tr>
<td>Address</td>
<td>Morphology/type of neoplasm</td>
</tr>
<tr>
<td>Species</td>
<td>Biological behaviour</td>
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<tr>
<td>Breed</td>
<td>Source of information</td>
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</table>

Stage
Grade
Therapy
The Danish Veterinary Cancer Registry.

Submission form
- Submission form electronic
- Drop down menus
- Single click options
- Relational database
Cancer registration for dogs and cats

Submission of cancer in dog

Licenced user: Louise

Date (dd/mm/yyyy): 13 - 02 - 2009

Information about the dog

Identification number: [?]
File number:
Postnumber:
Gender:
  ◯ Female
  ◯ Female - neutered
  ◯ Male
  ◯ Male - neutered
Breed:

Date of birth (dd-mm-yyyy): 13 - 2 - 2009
Date of death (dd-mm-yyyy): 0 - 0 - 2009
Euthanasia:
  ◯ Yes - due to cancer
  ◯ Yes - other reason
  ◯ No

Information about the neoplasm

Diagnosis:
Who diagnosed: [?]
Date of diagnosis (dd-mm-yyyy): 13 - 2 - 2009

Basis of diagnosis

Macroscopically:
Microscopically:
Anatomical localisation:
Mammary papillae number: (?) □ 1R □ 2R □ 3R □ 4R □ 5R □ 1L □ 2L □ 3L □ 4L □ 5L

Biological behaviour: ________________________

Stage/grade: ________________________

**Distribution**

Primary tumour
- ○ Not examined
- ○ Primary tumour not located
- ○ Primary tumour located

Invasion
- ○ Not examined
- ○ Tumour without invasion
- ○ Tumour with local invasion

Regional metastases
- ○ Not examined
- ○ Regional lymph node metastases not located
- ○ Regional lymph node metastases located

Distant metastases: (?)
- ○ Not examined
- ○ Distant metastases not located
- ○ Distant metastases located

**Treatment**

**Surgical**

Operation
- ○ No
- ○ Yes, initiated (dd-mm-yyyy) 0 □ - 0 □ - 2009 □

**Medical**

Steroid therapy
- ○ No
- ○ Yes, initiated (dd-mm-yyyy) 0 □ - 0 □ - 2009 □

Chemotherapy
- ○ No
- ○ Yes, initiated (dd-mm-yyyy) 0 □ - 0 □ - 2009 □

Radioactive iodine
- ○ No
- ○ Yes, initiated (dd-mm-yyyy) 0 □ - 0 □ - 2009 □
Specific challenges for DVCR

All clinics in Denmark
- Recruitment
- Education
- Motivation

System update
- Automatically generated newsletters
- Individual data extraction
- ICD 10
Recruitment and motivation

Recruitment of submitters

• Visits
• Presentations at courses
• Emails
• Informational articles
  • Client awareness
  • Breed organisations

• Newsletters
• Pamphlets
• Poster
Publications

**Veterinary cancer registries in companion animal cancer: a review.**

**Data from the Danish veterinary cancer registry on the occurrence and distribution of neoplasms in dogs in Denmark.**

**Validation of data collected in the Danish Veterinary Cancer Registry.**

**Oral malignant melanomas and other head and neck neoplasms in Danish dogs - data from the Danish Veterinary Cancer Registry.**

**Mast cell tumours and other skin neoplasia in Danish dogs - data from the Danish Veterinary Cancer Registry.**

**Establishment of a Danish veterinary cancer registry.**
Brønden LB. PhD thesis, Copenhagen: University of Copenhagen, Faculty of Life Sciences, Department of Small Animal Clinical Sciences. 2009. 132 pp.
Challenges for us as a group of registries

Challenges (review study)
- Accessibility - Paper submissions/computerized
- Standard classification and nomenclature of diagnoses
- Uniform inclusion criteria needed
- Difficult to compare incidence rates

Same definitions of:
- A case – individual or neoplasm?
- Diagnoses – are we using the same definitions/nomenclature?
- Breeds – are they comparable?
  i.e. Golden Retriever
### Essential variables to include

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Modified from MacLennan, 1991
Veterinary cancer registries – focus areas

be valid
- match the data from the original records

be accurate
- include only true neoplasms with correct diagnosis

be complete
- hold all neoplasms from all animals in defined population
### Veterinary cancer registries

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<th>Duration / Activity</th>
<th>Inclusion criteria</th>
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<td>2152</td>
<td>2005-Still collecting</td>
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<td>10,000</td>
<td>1994-Still collecting</td>
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<td>14,401</td>
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<td>6,743</td>
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<td>Cancer Registry and Surveillance System for Companion Animals, Cornell (USA)</td>
<td>170,000</td>
<td>1980-Still collecting</td>
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<td>958</td>
<td>1972-77 completed</td>
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<td>3,837</td>
<td>1961-71 completed</td>
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General challenges – inclusion criteria

**Target population**
- The population we want to draw conclusions on

**Study population**
- The population from which the sample is taken

**Sample unit**
- The samples obtained (from the study population)

Essential:
That the study population (and thereby the sample unit) is representative of the target population
Challenges - populations

Which cases are included in the veterinary cancer registry?

Target population
Challenges - populations

**Study population**

- Do not develop neoplasms
- Undetected neoplasms
- Diagnosed neoplasms

Not seen by veterinarian
Challenges - populations

Included in veterinary cancer registries – study unit
Challenges - populations

**Included in veterinary cancer registries – study unit**
Challenges - populations

*Included in veterinary cancer registries – study unit*
Reference populations (representative of target population?)

Difficult to compare incidence rates based on reference population estimates

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<th>Details</th>
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<td>Norwegian Kennel Club registrations 1982-1997</td>
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<td>&quot;Veterinarian-using&quot; animal population in Greater Tulsa area</td>
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<td>California Animal Neoplasm Registry (USA)</td>
<td>3 times the population-at-risk multiplied with the population sampling factor</td>
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<td>Danish Veterinary Cancer Registry (Denmark)</td>
<td>Danish Dog Registry Compulsory since 1993 (&gt;4 months/8 w) 98-99% of all dogs in Denmark (est.)</td>
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Questions?