The Norwegian Canine Cancer Registry

Gjermund Gunnes
Central Laboratory
Norwegian School of Veterinary Science
• Background
  – Started in 1992 based on a private donation of funds from Ingeborg and Helge Harritz Foundation.
  – The registered data is derived exclusively from the PatLab biopsy database, which is the only veterinary biopsy service in Norway, established 20 years ago.
  – Purpose of the registry: Make canine cancer material available to researchers to elucidate e.g.:
    • cancer incidence in dogs
    • survival related to different cancer types
    • pathogenesis of canine cancers
    • possible canine models for human cancer research
• The biopsy database
  – 1990 to present
  – 1990 to 1998: Research project (no charge to clients) covering 4 counties: Oslo, Akershus, Troms, Finnmark
  – 1998 to present: Commercial service, all counties
  – Canine diagnoses through 2009: 37,700 of which approximately 70% (26,400) are neoplasias

Hu pop: 590,000
Area: 450 km² (175 sq. miles)
• The biopsy database
  – 1990 to present
  – 1990 to 1998: Research project (no charge to clients)
    covering 4 counties: Oslo, Akershus, Troms, Finnmark
  – 1998 to present: Commercial service, all counties
  – Canine diagnoses through 2009:
    37,700 of which approximately 70% (26,400) are neoplasias

Hu pop: 523,000
Area: 4,900 km² (1,900 sq. miles)
• The biopsy database
  – 1990 to present
  – 1990 to 1998: Research project (no charge to clients) covering 4 counties: Oslo, Akershus, Troms, Finnmark
  – 1998 to present: Commercial service, all counties
  – Canine diagnoses through 2009: 37 700 of which approximately 70% (26 400) are neoplasias

Hu pop: 155 000
Area: 25 800 km² (9 900 sq. miles)
The biopsy database
– 1990 to present
– 1990 to 1998: Research project (no charge to clients)
  covering 4 counties: Oslo, Akershus, Troms, Finnmark
– 1998 to present: Commercial service, all counties
– Canine diagnoses through 2009: 37,700 of which approximately
  70% (26,400) are neoplasias

Hu pop: 72,500
Area: 48,600 km² (18,700 sq. miles)

Workshop on canine cancer registration, The Norwegian School of Veterinary Science, Oslo, Norway, August 31st – September 1st, 2010
• The biopsy database
  – 1990 to present
  – 1990 to 1998: Research project (no charge to clients) covering 4 counties: Oslo, Akershus, Troms, Finnmark
  – 1998 to present: Commercial service, all counties
  – Canine diagnoses through 2009: 37 700 of which approximately 70% (26 400) are neoplasias
### Number of cases entering the registry annually

#### 4 regions (25 % of canine pop)  
#### All 19 regions (100 % of canine pop)

<table>
<thead>
<tr>
<th>Year</th>
<th>Sample count</th>
<th>Year</th>
<th>Sample count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>873</td>
<td>1998</td>
<td>1299</td>
</tr>
<tr>
<td>1991</td>
<td>1331</td>
<td>1999</td>
<td>1776</td>
</tr>
<tr>
<td>1992</td>
<td>1515</td>
<td>2000</td>
<td>1714</td>
</tr>
<tr>
<td>1993</td>
<td>1731</td>
<td>2001</td>
<td>1769</td>
</tr>
<tr>
<td>1994</td>
<td>1999</td>
<td>2002</td>
<td>2143</td>
</tr>
<tr>
<td>1995</td>
<td>1959</td>
<td>2003</td>
<td>2103</td>
</tr>
<tr>
<td>1996</td>
<td>2232</td>
<td>2004</td>
<td>2177</td>
</tr>
<tr>
<td>1997</td>
<td>2276</td>
<td>2005</td>
<td>2026</td>
</tr>
<tr>
<td>1998</td>
<td>485</td>
<td>2006</td>
<td>1940</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td><strong>14401</strong></td>
<td><strong>2007</strong></td>
<td><strong>1775</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>2008</strong></td>
<td><strong>2360</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>2009</strong></td>
<td><strong>2254</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Sum</strong></td>
<td><strong>23336</strong></td>
</tr>
</tbody>
</table>
### PatLab Histologipatologisk diagnosetikk

Norges veterinærhøgskole og Veterinarinstituttet

#### Rekvisisjon

<table>
<thead>
<tr>
<th>Fra veterinær</th>
<th>Veilnr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klinikk</td>
<td></td>
</tr>
<tr>
<td>Postadresse</td>
<td></td>
</tr>
<tr>
<td>Postnr./sted</td>
<td></td>
</tr>
<tr>
<td>E-post</td>
<td></td>
</tr>
<tr>
<td>Tlf.</td>
<td></td>
</tr>
<tr>
<td>Fax</td>
<td></td>
</tr>
<tr>
<td>Eier</td>
<td></td>
</tr>
<tr>
<td>Poster/sted</td>
<td></td>
</tr>
<tr>
<td>Act</td>
<td></td>
</tr>
<tr>
<td>Rase</td>
<td></td>
</tr>
<tr>
<td>Føds. (dag/mnd/år)</td>
<td></td>
</tr>
<tr>
<td>Dyrel. navn</td>
<td></td>
</tr>
<tr>
<td>Jnr.</td>
<td></td>
</tr>
<tr>
<td>Microchipnr.</td>
<td></td>
</tr>
<tr>
<td>Annet sag.nr.</td>
<td></td>
</tr>
<tr>
<td>Kjenn</td>
<td></td>
</tr>
<tr>
<td>Prøvetakingsdato</td>
<td></td>
</tr>
</tbody>
</table>

| Innsendt prøvemateriale | Ant. versprøver | Prøvemateriale med |  |
|-------------------------|----------------|--------------------|
|                         |                |                    |

<table>
<thead>
<tr>
<th>ALMENNELIG</th>
<th>VARENET AV LEIDELSE</th>
<th>ERINNERINGSSTILLSTAND</th>
<th>KASTRASJON/OVARIONSTYRESECTORI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Dager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Svakt påkjen</td>
<td>Uker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Størkt påkjen</td>
<td>Måneder</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BESKRIVELSE AV TUMOR/ANDRE LESJONER** (lokalisasjon, antall, størrelse, status regionale trafikkoner, andre relevante opplysninger)

Markér (klikk) på tegningen hvor lesionene er satt!

---

**TENTATIV DIAGNOSE**

(Uten histologipatologisk undersøkelse)

**DIAGNOSEGRUNNLAG**

- Klinisk undersøkelse
- Røntgen
- Klinisk kjemi
- Histologi
- Pathologi
- Urologi
- Cytologi

**TIDLIGERE HISTOPATOLOGISK DIAGNOSE** (opp fra annet laboratorium)

**BEHANDLET TIDLIGERE MED KJONNHORMONER**

- Oestrogen: Ja | Nei | Vet ikke
- Gestagen: Ja | Nei | Vet ikke

**ANDRE HORMONER**

- kortkosteroider: Ja | Nei | Vet ikke
- Thyroxin: Ja | Nei | Vet ikke

---

Prøvemateriale sendes til: Syntella laboratorier, Norges veterinærhøgskole, Postboks 8146 Dyp, 0333 Oslo

Tlf. +47 22 86 45 46  Fax: +47 22 86 45 94  www.syntella.laboratoriet.no
• Data registered
  – Animal
    • Name (sometimes microchip number), breed, sex, date of birth, …
  – Owner
    • Name, address
  – Clinic
    • Name, address, phone, submitting clinician…
• Data registered
  – Clinical data on a 3-step semiquantitative scale: (e.g. normal-moderate-severe)
    • Condition
    • Duration of lesion
    • Nutritional state
    • Castration status
    • Short clinical history with diagram
    • Hormone treatment history
      – Estrogens
      – Gestagens
      – Corticosteroids
      – Thyroxin
      – Others
• Data registered
  – Pathological data
    • Macroscopical and histological description
    • Morphological diagnosis
    • Etiology
    • Pathologists comment
• Diagnosis code
  – Flat 5 digit system
  – Two first digits: Organ system
  – Third digit: 9 indicates hyperplasia or neoplasia
  – Two last digits: Classification of the lesion
  – Example: 52907
    • 52: Mammary gland
    • 9: Neoplasia
    • 07: Carcinoma
  – Advantage: Simple
  – Disadvantage: Limited options, occasionally somewhat imprecise.
• Function of the registry
  – Making canine cancer material available to researchers
    • SQL-based Access database
    • Search engine under construction
    • Local solution
    • Internet solution in future
• Concluding remarks and thoughts for the future
  – *Unfinished business*
  – Standardization of data
    • Clinical data
    • Pathological data
    • Diagnostic codes
    • Follow up data
    • Identification of individuals: utilization of the microchip id-system
  – Expand to a tissue data bank e.g. to include blood, frozen tissues etc.
  – International collaboration
  – Funding