Immuno-Therapy & Detoxification for Small Animals

Featured Vet: Nancy Scanlan, DVM
Host: Geoff D’Arcy, Lic.Ac. DOM

Updated on May 2010
PROPRIETARY & CONFIDENTIAL © 2010-2012
FEATURED VET:  
Nancy Scanlan, D.V.M., F.S.F.P.

Dr. Nancy Scanlan has practiced veterinary medicine since 1970 and is currently using 100% integrative methods in her treatment of animals. Certified in veterinary acupuncture, she also uses nutrition, nutraceuticals, herbal medicine, homotoxicology, and trigger point therapies. While her approach is holistic, she believes that the best animal care is often complementary, combining the best of conventional and holistic treatments. Dr. Scanlan has been an executive board member and past president of the American Holistic Veterinary Medical Association (AHVMA) and is the current president of the Veterinary Botanical Medical Association (VBMA). She is also a board member and co-founder of the Veterinary Institute of Integrative Medicine (VIIM) and Veterinary Research Council (VRC) and a consultant for several natural pet product companies. She has been a featured speaker at many professional meetings and has written numerous articles on holistic approaches to animal healing.

Currently Dr. Scanlan is working on a new book and reference guide titled: “Complementary Medicine for Veterinary Technicians and Nurses”. The book is scheduled to be released to the public in January 2011 by Wiley Blackwell.
HOST:
Geoff D’Arcy, Lic. Ac., D.O.M.

Geoff has been a practicing Traditional Chinese Medicine (TCM) Herbalist and Acupuncturist for over 30 years. He started Herb-for-Pets over ten years ago at the request of veterinarians looking for herbal pet care options. With his commitment to wellness and natural healing, he has trekked around the world discovering native herbs that have powerful healing properties. With his knowledge he has developed an excellent, well-balanced line of herbal formulas for pets; ranging from common conditions and nutritional support to formulas for serious disease and chronic conditions.

Geoff has authored and co-authored several books on holistic medicine and herbs, including “The Veterinary World Herb Handbook” and “The World Herb Handbook”. He has also co-founded two large integrative medical centers in Massachusetts and is now Director of the D’Arcy Wellness Center in Natick, Massachusetts. He is president of D’Arcy Naturals, Inc., a company that produces all natural herbal formulas for people and pets. D’Arcy Naturals offers free eNewsletters for veterinarians at www.naturalpetrx.com.
Herbal Medicine In Our World Today

Worldwide:
- 80% of the world’s population use herbal medicine to stay well. 804 million
- 75 % of all drugs come from folk medicine.

North America:
- One in three uses complementary medicines.

Germany and France:
- 70 % of the German GPs prefer to prescribe herbal medicines/phytopharmaceuticals in healthcare. Ginkgo biloba is now the most prescribed drug in Germany.
[http://www.camdoc.eu/Survey/Results_NAT.html]

China:
- 60% of the population rely on herbs for healthcare.

Japan:
- 80% of MDs in Japan have experience with herbal medicine.
Drug Discoveries from Herbal Sources

• 121 prescription drugs in use today come from 90 plant species.
• About 74% came from following folklore claims.  
  (Benowitz S, The Scientist 10, 1996, 1-7.)
• Approximately 25% of the drug prescription in the USA are compounds derived from plants and were discovered through scientific investigation of folklore claims.  

<table>
<thead>
<tr>
<th>Natural Herb</th>
<th>Pharmaceutical Drug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific Yew</td>
<td>Taxol</td>
</tr>
<tr>
<td>Rosy Periwinkle</td>
<td>Vinblastin, Vincristine</td>
</tr>
<tr>
<td>Foxglove</td>
<td>Digitalis</td>
</tr>
<tr>
<td>Meadowsweet</td>
<td>Aspirin</td>
</tr>
</tbody>
</table>
Lung Cancer and Vegetable Intake

(each line is the results of a different study, the blue line is the average)
Stomach Cancer and Vegetable Intake

Diagram showing the relationship between vegetable intake (grams/day) and relative risk of stomach cancer.
Stomach Cancer and Fruit Intake

Relative risk vs. Fruit intake grams/day

- The graph shows the relationship between fruit intake (in grams per day) and relative risk for stomach cancer.
- There is a significant decrease in relative risk as fruit intake increases.
- The blue line represents a specific trend or study result among various data points.
- The x-axis represents fruit intake in grams per day, ranging from 0 to 500 grams.
- The y-axis represents relative risk, ranging from 0.4 to 1.4.

This suggests that higher fruit intake is associated with a lower relative risk of stomach cancer.
NF-kappa B (NF-kB)

*master switch to regulate more than 300 genes*

- nuclear factor-kappa B (NF-kB), a powerful master switch known to regulate expression of more than 300 genes that promote an abnormal inflammatory response that leads to a variety of disorders, these transcription factors are persistently active in a number of disease states including
  - heart disease.
  - cancer.
  - arthritis
  - immune responses
  - inflammatory responses
  - chronic inflammation, IBS, chron’s, ulcerative colitis
  - developmental processes, cellular growth, and apoptosis.
  - asthma,
  - neurodegenerative diseases
Hypothesis!

NF-κB activation is a major mediator of inflammation in most diseases & inhibition of NF-κB activation can suppresses inflammation
Inflammation has been linked to several diseases:

- Heart failure
- Cancer
- Chronic obstructive pulmonary diseases
- Ischemia/Reperfusion
- Cardiac hypertrophy
- Atherosclerosis
- Multiple sclerosis
- Muscular dystrophy
- Alzheimer’s disease
- Bone resorption
- Renal disease
- Incontinentia pigmenti
- Ectodermal dysplasia
- Crohn’s disease
- Neuropathological disease
- Helicobacter pylori-associated gastritis
- Systematic inflammatory response syndrome
- Arthritis
- AIDS
- Asthma
- Headache
- Diabetes type 1 and II
- Aging
- Lupus
- Sepsis
- Gut disease
- Skin disease
- Viral infections
- Sleep apnoea
## Comparison of Cancer Incidence

<table>
<thead>
<tr>
<th>Cancer</th>
<th>USA Cases</th>
<th>USA Deaths</th>
<th>India Cases</th>
<th>India Deaths</th>
<th>Japan Cases</th>
<th>Japan Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral cavity</td>
<td>50</td>
<td>11</td>
<td>102</td>
<td>60</td>
<td>29</td>
<td>12</td>
</tr>
<tr>
<td>Nasopharynx</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Other Pharynx</td>
<td>19</td>
<td>9</td>
<td>57</td>
<td>42</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Oesophagus</td>
<td>31</td>
<td>31</td>
<td>63</td>
<td>59</td>
<td>58</td>
<td>43</td>
</tr>
<tr>
<td>Stomach</td>
<td>56</td>
<td>34</td>
<td>43</td>
<td>39</td>
<td>489</td>
<td>225</td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>356</td>
<td>139</td>
<td>40</td>
<td>26</td>
<td>342</td>
<td>143</td>
</tr>
<tr>
<td>Liver</td>
<td>30</td>
<td>31</td>
<td>17</td>
<td>16</td>
<td>186</td>
<td>146</td>
</tr>
<tr>
<td>Pancreas</td>
<td>72</td>
<td>68</td>
<td>11</td>
<td>11</td>
<td>76</td>
<td>71</td>
</tr>
<tr>
<td>Larynx</td>
<td>33</td>
<td>11</td>
<td>35</td>
<td>22</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>Lung</td>
<td>463</td>
<td>402</td>
<td>55</td>
<td>51</td>
<td>262</td>
<td>214</td>
</tr>
<tr>
<td>Melanoma of skin</td>
<td>113</td>
<td>21</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Breast</td>
<td>914</td>
<td>212</td>
<td>191</td>
<td>99</td>
<td>314</td>
<td>77</td>
</tr>
<tr>
<td>Cervix uteri</td>
<td>78</td>
<td>33</td>
<td>307</td>
<td>174</td>
<td>111</td>
<td>30</td>
</tr>
<tr>
<td>Corpus uteri</td>
<td>155</td>
<td>20</td>
<td>17</td>
<td>5</td>
<td>45</td>
<td>13</td>
</tr>
<tr>
<td>Ovary etc.</td>
<td>106</td>
<td>62</td>
<td>49</td>
<td>29</td>
<td>66</td>
<td>37</td>
</tr>
<tr>
<td>Prostate</td>
<td>1043</td>
<td>179</td>
<td>46</td>
<td>28</td>
<td>111</td>
<td>55</td>
</tr>
<tr>
<td>Testis</td>
<td>40</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Bladder</td>
<td>144</td>
<td>28</td>
<td>20</td>
<td>16</td>
<td>56</td>
<td>17</td>
</tr>
<tr>
<td>Kidney etc.</td>
<td>86</td>
<td>31</td>
<td>8</td>
<td>6</td>
<td>42</td>
<td>19</td>
</tr>
<tr>
<td>Brain, nervous system</td>
<td>54</td>
<td>37</td>
<td>21</td>
<td>16</td>
<td>24</td>
<td>9</td>
</tr>
<tr>
<td>Thyroid</td>
<td>46</td>
<td>3</td>
<td>14</td>
<td>4</td>
<td>31</td>
<td>5</td>
</tr>
<tr>
<td>Non-Hodgkin lymphoma</td>
<td>135</td>
<td>59</td>
<td>24</td>
<td>19</td>
<td>58</td>
<td>30</td>
</tr>
<tr>
<td>Hodgkin's disease</td>
<td>22</td>
<td>4</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Multiple myeloma</td>
<td>35</td>
<td>26</td>
<td>8</td>
<td>6</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Leukemia</td>
<td>80</td>
<td>54</td>
<td>26</td>
<td>20</td>
<td>48</td>
<td>34</td>
</tr>
<tr>
<td>All sites but skin</td>
<td>3223</td>
<td>1391</td>
<td>1017</td>
<td>688</td>
<td>2230</td>
<td>1213</td>
</tr>
</tbody>
</table>

*Showing cases were after standardized with world standard population, called World Standardized incidence or mortality rate. It is also expressed per million. J. Ferlay, et al. GLOBOCAN 2000. URL: http://www-dep.iarc.fr/globocan/globocan.htm*
## Chemical Composition of Most Common Spices

<table>
<thead>
<tr>
<th>Spice</th>
<th>Botanical name*</th>
<th>Part of Plant</th>
<th>Major Constituents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tumeric</td>
<td>Curcuma longa</td>
<td>rhizome</td>
<td>Essential oils 5%: tumerone (58%), borneol (6.5%), cineole (1%),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>a-phellandrene (1%), curcumin (0.6%), zingerone, zingiberene (25%)</td>
</tr>
<tr>
<td>Pepper (red)</td>
<td>Capsicum frutescens</td>
<td>fruit</td>
<td>Pigments: carotene, zeaxnthin, cryptoxanthin; oleoresin (1.5%);</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>capsaicin</td>
</tr>
<tr>
<td>Cloves</td>
<td>Syzgium aromaticum</td>
<td>buds</td>
<td>Essential oils 17%: eugenol (93%),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>caryophyllin, vanillin, Eugenin,</td>
</tr>
<tr>
<td></td>
<td>(Caryophyllus aromaticus,</td>
<td></td>
<td>methylamylketone</td>
</tr>
<tr>
<td></td>
<td>Eugenia caryophyllata</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coriander</td>
<td>Coriandrum sativum</td>
<td>seeds</td>
<td>Essential oils 1%: (+)-linalool (60-70%), a-pinene, b-pinene, a-terpinene,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b-terpinene, geraniol, borneol, decylaldehyde, dipentene, cymene</td>
</tr>
<tr>
<td>Cumin</td>
<td>Cuminum cyminum</td>
<td>seeds</td>
<td>Essential oil 4.5%: cuminaldehyde (40-65%), thymol, cymol, cymene</td>
</tr>
</tbody>
</table>
References
1,830 PAPERS STUDIES AND REPORTS ON CURCUMIN

1,830 PAPERS STUDIES AND REPORTS ON CURCUMIN

- Natarajan C, Bright JJ. Peroxisome proliferator-activated receptor-gamma agonists inhibit experimental allergic encephalomyelitis by blocking IL-2 production, IL-12 signaling and Th1 differentiation. Genes Immun 2002 Apr;3(2):59-70 2002
Sulforaphane in Broccoli

- Sulforaphane induces Phase 2 (detoxification) enzymes, which are the enzymes that help to deactivate carcinogens and free radicals, thereby enhancing the body's own defense system.
- Some of the best growing techniques now guarantee large quantities, up to 5,500 parts per million, of sulforaphane within organically grown broccoli sprout
- In animal studies, sulforaphane blocked tumor development, reducing incidence, multiplicity, and size of carcinogen-induced mammary tumors
Broccoli References


- Electrophile and Antioxidant Regulation of Enzymes that Detoxify Carcinogens http://www.pnas.org/cgi/content/abstract/92/19/8965 Proc Natl Acad Sci U S A 1995 Sep 12;92(19):8965-9 T Prestera and Paul Talalay


- Chemical and Molecular Regulation of Enzymes that Detoxify Carcinogens http://www.pnas.org/cgi/content/abstract/90/7/2965 Proc Natl Acad Sci USA 1993 Apr 1;90(7):2965-9 T Prestera, WD Holtclaw, Y Zhang and P Talalay


- Rapid Detection of Inducers of Enzymes that Protect Against Carcinogens http://www.pnas.org/cgi/content/abstract/89/6/2394 Proc Natl Acad Sci USA 1992 Mar 15;89(6):2394-8 HJ Prochaska, AB Santamaria and P Talalay

Plants will also generate hundreds of compounds to protect themselves from animals and insects.

- Tannins in leaves have mild anti-bacterial compounds and act as a barrier against penetration and colonization by plant pathogens. They dry out leakage of fluids from any break in the plant’s cells, causing contraction of the tissues.
- They also can bind with these pathogens on the surface causing a hardening or tanning of the cells, creating a protective layer, shutting down entry of the pathogen to the plant.
- Plants need to generate these natural, yet complex chemistries to survive. They can generate antibiotic, anti-microbial, mucilaginous, gum, resin, anti-inflammatory, and analgesic compound.
- Many clinically important drugs, such as aspirin, digitoxin, progesterone, cortison and morphine, have been derived directly or indirectly from higher plants.
- Less well-recognised but of great clinical importance are the widely used drugs from fungi such as the antibiotics, penicillin and griseofulvin, the ergot alkaloids and cyclosporin.
The foundation for the organizing principles were laid down in the Chinese medical text, the Yellow Emperor’s Inner Classic.

Every herb has a down side; good formulas knock the hard edges off the “star player”, with the philosophy that “the team is greater than its star player.” The whole is greater than the sum of its parts.

The combinations in a formula produce a new therapeutic agent that treats more effectively and completely the cause, as well as the symptoms, of a health problem. There are organizing principles that govern the combining of thousands of active ingredients in plants to create a harmonized, effective team.

In the seventy-fourth chapter of the basic questions, (Su Wen), it is stated, “That [ingredient] which primarily treats the disease is the Chief, that which aids the Chief is the Deputy, that which is bound to the Deputy is the Envoy/Messenger.”
Cancer Facts for Pets

Cancer is the leading cause of death in pet cats and dogs in the United States. As many as 50% of pets die of cancer.

One definition of cancer:
“A malignant growth of tissue tending to spread and associated with general ill health and progressive emaciation”.

• Cancer is the uncontrolled growth of abnormal cells on or within the body. Not all cancers are the same. Depending on the location and biologic behavior there may be several treatment options available for animals. Conventional treatments include chemotherapy, radiation therapy and surgery.

• Complimentary Medicine More Mainstream – Growing number of veterinarians are turning to supplements in treating pets with cancer, which may not be able to tolerate traditional drug therapies.

At the core of holistic pet care is the notion that the best way to cure an animal is to help the animal cure itself.
Why Herbal Medicine?

Herbal medicine is a gentle, natural, non-toxic, therapeutic approach that provides a wonderful option in animal healthcare.

- **There are more than 10,000 independent research papers** available on polysaccharide immune modulators and their use in cancer treatment. These are research papers from the National Institute of Health, Harvard University, Japanese Cancer Society, Cancer Research UK and all of the other mainstream research organizations.
- **“Why aren’t herbal supplements being more widely used in cancer treatment?”**
- These are naturally occurring compounds and therefore they don’t fit our political/business model of veterinarian medicine in America.
- **Until these immuno-modulator compounds are synthesized and patented**, the large U.S. Pharmaceutical companies (who are also the ones manufacturing the veterinary medicines and funding the veterinary schools) will not bring them to market.
- Herbal Supplements along with conventional therapy, increases the effectiveness and results in higher remission rates.

  supplement conventional approaches

  minimize side effects

  improve treatment outcomes

  Improve feeling of well-being

  boosts the pet’s natural healing powers
If you have further comments or feedback, please email me at:
darcygeoff@yahoo.com

Next month, please join us next time on the topic of
“Dietary Supplements and Nutrition”