

Will BSE “Kill” Glandular Supplements?

Issues related to the safety and efficacy of dietary supplements often make headline news. Lately, additional concerns about supplements containing animal tissues have caught the attention of regulatory agencies and consumers. These supplements, known as “glandulars”, “tissue extracts”, or by a variety of scientific-sounding terms, purportedly improve the health of animals whose same glands or tissues have become dysfunctional. Their usage began in the United States during the late 19th century when people started giving fresh thyroid glands to patients for hypothyroidism. Subsequently, tissues and extracts from other organs (ovary, adrenal, testis, thymus, brain, etc.) became popular treatments, based on the idea that “like cures like”.

Medical practitioners largely ceased prescribing glandular derivatives once standardized medications became available, because the latter offered more reliable effects without the unpredictable hormonal effects of extracts and concentrates. However, glandulars and related supplements remain widely available and popular and do not require a prescription. This is especially important for human chiropractors, nutritionists, and naturopaths, who treat animals but who cannot write prescriptions. As these human healthcare practitioners increasingly gain primary care practice rights to legally treat animals without veterinarian involvement, glandular therapy for animals may become even more widespread.

Is there any medical benefit to glandulars? According to PDRhealth, an online medical information clearinghouse, “the various putative actions of the glandulars may be explained by the hormones and other factors that these tissue extracts contain.” According to the same source, “There is no credible evidence showing that supplemental glandulars rejuvenate glands.”

Furthermore, there is clear evidence that products such as dessicated thyroid can be harmful. Many reports document hyperthyroidism caused from excess thyroid hormone, leading to seizures, cardiac abnormalities including heart failure, ischemia, and death (Eliason BC et al. Dessicated thyroid in a nutritional supplement. *J Fam Pract.* 1994; 38:287-288.). Calls for the discontinuation of the easy availability of dessicated thyroid have been made since the 1970’s (Jackson IMD and Cobb WE. Why does anyone still use dessicated thyroid USP? *The American Journal of Medicine.* 1978;64:284-288.).

Despite the fact that these products are unapproved for veterinary usage, veterinary glandular and related supplements are heavily promoted in the lay veterinary alternative medicine literature. As noted previously, thyroid “glandulars” contain active thyroid hormone. Yet clients who read the *Natural Health Bible for Dogs & Cats* (Messonnier S., Prima Publishing, 2001) learn that the “principal natural treatments” for cats with hyperthyroidism comprise, first and

foremost, thyroid glandular supplements; according to the same source, animals with hyperadrenocorticism should ingest whole or extracted adrenal glands.

Veterinary glandular and related products designed to “maintain healthy function of the nervous and endocrine systems” include a variety of bovine brain tissues including pineal gland, hypothalamus, and pituitary. Glandulars containing spinal cord and myelin specific protein are the “main natural treatments” for canine degenerative myelopathy according to the *Natural Health Bible*. Of specific concern is the potential for these products to act as a source of infection for transmissible spongiform encephalopathies, because these “infectious prion agents have been detected in nervous, glandular, and lymphatic tissues, and other transmissible spongiform encephalopathies [in addition to bovine spongiform encephalopathy, or BSE] exist in many different mammalian species.”(From Dahl NV. Herbs and supplements in dialysis patients: panacea or poison? *Seminars in Dialysis*. 2001;14(3):186-192.)

Chinese “herbal” medicines are another under-recognized source of animal components with the potential for zoonotic disease transmission. Due in part to confusing terminology and translations, clients or practitioners may be unaware that a product contains bovine or porcine reproductive organs or central nervous system components. In addition, primate bones, organs, and tissues are sometimes used for their medicinal benefits (Still J. Use of animal products in traditional Chinese medicine: environmental impact and health hazards. *Complementary Therapies in Medicine*. 2003;11:118-122.). Deer antler extract, slices, or injection supposedly improve strength, vigor, and memory, and are frequent ingredients in Traditional Chinese Medicine (TCM) formulations. Some TCM “herbs” may also contain containing dessicated human placenta, for treatment of weakness and infertility (Hirschhorn HH. Natural substances in currently available Chinese herbal and patent medicines. *J Ethnopharmacology*. 1982;6:109-119).

Clearly, the need for regulation and oversight of such products exists. A press release dated January 26, 2004 stated that “HHS [Health and Human Services] intends to ban from human food (including dietary supplements), and cosmetics a wide range of bovine-derived material so that the same safeguards that protect Americans from exposure to the agent of BSE [bovine spongiform encephalopathy through meat products regulated by USDA also apply to food products that FDA regulates”. The FDA published two interim final rules that took effect immediately upon publication, although public commentary could take place following publication. The first interim final rule banned from dietary supplements products currently incorporated into “glandular” or “whole food” products, such as, according to the FDA press release, “Specified Risk Materials (SRMs) that are known to harbor the highest concentrations of the infectious agent for BSE, such as the brain, skull, eyes, and spinal cord of cattle 30 months or older, and a portion of the small intestine and tonsils from all cattle, regardless of their age or health”.

Veterinarians should closely review the ingredients in supplements their clients are giving their animals. Gain familiarity with Latin terminology to recognize the presence and origin of ingredients from animals, even in “herbal” products, such as bovine orchis (testicle), *Cervus Nippon* (for deer antler), *Felis tigris* or *Felis leopardus* (tiger bone, penis, etc.), and *Homo sapiens* (providing human placenta).