June 16, 2014

Can Dogs Warn Their Owners of Impending Migraines?

Harold Herzog, Animal Studies Repository

Available at: https://works.bepress.com/harold-herzog/65/
Can Dogs Warn Their Owners of Impending Migraines?

New study finds dogs can alert owners about onset of migraine headaches.

Posted Jun 16, 2014

Migraine headaches can be debilitating. If you suffer from them, you are probably aware of phenomena called “migraine prodromes.” These are psychological and behavioral changes that occur several hours before the onset of the actual headaches. Common prodomes include yawning, frequent urination, food cravings, mood changes, and neck pain. They can also involve neurological symptoms such as blurred vision, difficulty concentrating, and dizziness. Prodomes are experienced by about 80 percent of migraine sufferers. A recent study suggests that some dogs may warn their owners about impending migraines. Could these animals pick up on prodromes even before their owner experiences a headache?

It seems clear that dogs can be keenly sensitive to subtle changes related to the health of their owners. For example, seizure alert dogs can apparently sense imminent epileptic seizures. (See here and here.) In a 2008 study (here), two thirds of dog owners suffering from Type I diabetes believed their pets knew when the owners were experiencing hypoglycemia, and the dogs engaged in alerting behaviors such as nuzzling their owner and barking. Could the dogs of migraine victims sense impending headaches and warn their owners? A recent study suggests the answer may be yes.

The Study: Methods and Results

Dawn Marcus of the University of Pittsburg and Amrita Bhowmick of Health Union, L.L.C. were interested in the possibility that dogs could serve as migraine alert animals. Their research methods were simple. (Here.) They recruited migraine sufferers who owned dogs through web sites such as Migraine.com. The participants completed a brief online questionnaire about the degree their dogs exhibited migraine-altering behaviors.

54 percent of the 1027 participants indicated they had noticed changes in the behavior of their pets during or preceding migraines. Nearly 60 percent of these subjects indicated that their dog had alerted them to the onset of a headache—usually an hour or two in advance!.

The most common alerting behavior was that the dog paid particularly close attention to its owner. Often the dog would refuse to leave the owner (a “Velcro dog”) Other alerting behaviors were persistent licking, lying by their owner’s side, and “herding” or staring at their owner. One owner, for example, reported that her dog would bark, wag its tail frantically, and whirl in circles an hour or two before the onset of the migraine. The dog would repeat this behavior pattern every 15 minutes until the migraine started. Then the pet would stay “glued to its owner’s side
with its head in the owner’s lap.” Another woman reported that her 3-year-old Lab-pit bull mix would wake her up in the middle of the night by incessantly licking her face when a migraine was imminent. Now she uses cues from the dog as and alerting signal begins to take medication before the onset the headache.

Words of Caution and a Couple of Questions

The most important finding in the study was that about one in four dog-owning migraine sufferers reported changes in their pet’s behavior before the owner had any symptoms. However, as is nearly always the case in research, there are limitations to the study. For example, 95 percent the participants in the study were women. (But between 85 percent and 90 percent of migraine sufferers are women.) In addition, the study is based on retrospective self-reports. Research that fall into this category can be affected by distortions of memory and unconscious.

Despite these limitations, the idea that dogs can sense neurological or behavioral changes in their owners before their owner actually experiences a headache raises a host of interesting and important questions. Here are a few that came to my mind:

- What cues are the dogs using to sense the occurrence of a headache that will not occur for several hours in the future?

- How accurate are the dogs’ migraine alerts (that is, how common are “false positive” signals and “false negative” signals)?

- Can “non-signaling” dogs be trained to sense the onset of a migraine?

As is nearly always the case, “more research is needed.”