

Can Vaccines Cause Tumors?

An expert answers questions on canine healthcare.

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Causes of Sudden DeathQ: Today I lost my best friend. My four-and-a-half-year-old Yorkshire Terrier died in my arms for no apparent reason. Max followed me into the bathroom as usual, went into the shower, drank water from a cup, walked out of the shower and keeled over. I thought she was choking and checked her throat - there was nothing there. I started CPR and rushed her to the veterinarian. The vet applied oxygen and gave her a shot of epinephrine into her heart to no avail. She was gone. Healthy small-breed dogs usually live to be 15 years old - they shouldn't keel over and die at less than 5 years of age. My vet performed a necropsy (autopsy) and found nothing. Max has been sent to a lab that specializes in animal necropsies, and we are waiting for results. Meanwhile, all I can do is cry. If anyone reading this has any answers please let me know.

A: Sudden, unexpected deaths such as you experienced with Max are especially heartbreaking and confusing. You are correct that Max should have been with you for many more years. Unfortunately there are some very serious diseases with very little in the way of outward signs. The first sign of a problem with some of these conditions may be acute collapse or death.

The most likely causes of sudden death arise from the cardiopulmonary system. Sudden disruption of the heart's ability to pump blood, lack of blood flow to the brain or lack of oxygenation of the blood will result in acute collapse and likely death. Disease of the heart muscle can lead to improper or incomplete conduction of electrical impulses through the heart. This can result in an abnormal heart rhythm (arrhythmia) and inadequate function or stoppage of the heart. Any condition that causes sufficient damage to the conducting fibers in the heart can lead to this situation.

Causes can be congenital (inborn) abnormalities, genetic, nutritional, infectious (viral or bacterial), trauma, heart valve disease, toxicities, cancers, hormonal or electrolyte disturbances and primary cardiomyopathy. Electric shock can also cause acute disruption of normal heart function. The more inefficient the pumping of the heart, the more likely the blood will be poorly oxygenated and further arrhythmia will result.

It is entirely possible to have disease severe enough to cause sudden death that would not show up in a necropsy. Microscopic examination may be needed to show the underlying abnormalities.

Blood clots to the heart, brain and/or lungs could conceivably cause sudden death, though thromboembolism and strokes are relatively rare in animals. Acute rupture of a highly vascular tumor or major blood vessel such as the aorta could also cause massive hemorrhage and sudden death - these would certainly have been noted on necropsy.