Cutaneous Hemangioma

General Information

A cutaneous hemangioma is a benign neoplasm found on the skin of dogs. It can originate either in the dermis or the subcutaneous layer of the skin as a result of a mutated cell or cells that line a blood vessel. The mutated cell still tries to perform its normal function and starts to make new blood vessels. However, it does this poorly compared to its healthy counterparts and the resulting blood vessels are often badly deformed. This causes blood to pool in these malformed vessels and results in one or more blood-filled masses on the skin that are dark red to black in color. It may be compressible or soft, but they are often well outlined by the overlying skin. They are typically slow growing, but they have a tendency to become large and ulcerate, leading to blood loss, anemia and increased susceptibility for secondary infections at the wound site.

Though this type of tumor can occur anywhere on the skin, the most common areas for cutaneous hemangiomas to appear are the ventral abdominal and inguinal regions, extremities, or other areas of skin that are sparsely haired and light in color. It is suspected that chronic sun damage, particularly in areas where the skin lacks the natural protection of a thick hair coat or heavy pigmentation, may be a significant
contributing factor if not a direct cause of dermally originating cutaneous hemangiomas in dogs.

**Risk Factors**

Older animals, ages 9 and up, are more likely to develop a cutaneous hemangioma. Many canine breeds with shorter hair coats and lighter colored skin, including but not limited to: Cordon Setters, Boxers, Airedales, Scottish Terriers, Kerry Blue Terriers, Pit Bulls, Greyhounds and Whippets may have a predisposition to developing this type of tumor.

There are no sex-related predispositions reported at this time.

Although benign in nature, large tumors that rupture can be life-threatening as they lead to severe hemorrhage, shock and death due to blood loss.

**Treatment**

Although a visual diagnosis is possible, a definitive diagnosis should be obtained via histopathology due to shared features with mast cell tumors, cutaneous hemangiosarcoma, peliosis hepatis and hemangiopericytoma. Cutaneous hemangiomas are typically amenable to surgical removal and are unlikely to reoccur. Visceral hemangiomas are similar blood-filled masses that originate within organs or other vital soft tissues. Visceral hemangiomas can be much more difficult to treat as
their location may preclude surgery.

**Prognosis**

Surgical excision is usually curative in the case of cutaneous hemangiomomas and the prognosis is good. Although there is a genetic component to this disease, it is not always heritable. Additionally, preventative measures such as providing shade for outdoor dogs or keep dogs indoors to limit sun exposure may be beneficial for breeds with a predisposition for developing these tumors.

**Comparative Analysis**

Sun exposure does not seem to have an effect on the development of cutaneous hemangiomomas in species other than dogs. Cutaneous hemangiomomas are sometimes present at birth or in the early stages of life in children and foals. It has not yet been determined if these cases are true neoplasias or the consequence of vascular malformations during development. They are also found in older adult cats, usually on the head, extremities or abdomen. They are also commonly seen in cattle, especially dairy cows, as a consequence of old age or congenital defects. They are sometimes seen in pigs, and are considered a rare type of neoplasia in other domestic species.

People who receive excessive amounts of prolonged, unprotected exposure to sunlight
are much more likely develop these tumors.

References


