

## “Asymptomatic thrombocytopenia and Macrothrombocytosis in the Cavalier King Charles Spaniel” *By Club Member Dr. Kim Hamer, DVM*

### Terminology:

1. Platelets are also called thrombocytes. These are the blood cells that are responsible for normal blood clotting.
2. Thrombocytopenia is an abnormally low blood platelet count.
3. Macrothrombocytes are abnormally large blood platelets.

Normal blood platelet counts should be between 150-200,000. Dogs will have bleeding abnormalities if their counts are below 40,000. However, Cavaliers may have counts well below 40,000 with no problems.

Approximately 30% of Cavaliers have macrothrombocytosis and/or thrombocytopenia. This appears to be a congenital abnormality. The Cavalier does not experience any health problems despite these changes. It is thought that the large platelets of the Cavalier are able to provide the same function in lower numbers than that of other breeds.

Because Cavalier platelets are so large, automated cell counters may mistakenly count them as white blood cells, artificially lowering the platelet count. Additionally, these cells may not be recognized when examined under the microscope on a blood smear because they may not look like the platelets of other breeds.

This condition should not be confused with immune-mediated thrombocytopenia, where the body attacks its platelets. Dogs with this disorder will be having SYMPTOMS: i.e. petechiae, bruising and bleeding.

Remember, the Cavalier does not experience any health problems due to this condition, which has only been reported in our breed and no others!

Kim Hamer D.V.M. DeKalb Animal Hospital, (770) 938-3900

## Cavalier Platelet Issues *by Joanne Nash*

The Cavalier by your side has an almost one in three chance of having a genetic blood anomaly that is unique to this breed. Though this condition is harmless in itself, it can lead a vet to misdiagnose it as a serious and life-threatening disease, and unnecessary expensive and potentially damaging treatment can be prescribed.

About 30-31% of Cavalier King Charles Spaniels share an abnormality known as macrothrombocytosis, which has not (yet) been noted in any other breed, though similar conditions occur in humans. These Cavaliers have unusually large blood platelets (thrombocytes). Automated blood counts may result in a very low platelet count, probably because the large platelets are being confused with other blood cells and/or do not go through the counter rapidly enough. A manual recount may produce a more accurate reading. Some Cavaliers

with large platelets seem to have a normal number of them upon recount. Others may have fewer platelets than the norm, but the large platelets (also known as macrothrombocytes and occasionally as megathrombocytes) seem to be extremely efficient and function as effectively as the usual larger number of normal platelets.

Platelets are the components of blood that are needed for blood clotting. Dogs normally have from 150,000 to 200,000 platelets in a typical blood count; if the number is 40,000 or less, the danger of serious bleeding problems becomes great. A low platelet count is diagnosed as **thrombocytopenia**. In Cavaliers with large platelets, this is not a true platelet problem and the condition is called **pseudo-thrombocytopenia**.

## Cavalier Platelet Issues (Continued)

Studies of this Cavalier phenomenon have shown that large platelets are found in similar numbers in males and females and in dogs of any age. An association with MVD was suggested but no correlation between Mitral Valve Disease and large platelets has been found. An Australian study reported that the large platelets seem to be inherited as an autosomal recessive trait.

Many routine health examinations, or pre-operative work-ups done before dental cleanings or surgery, include blood work. Findings of low platelet numbers in an asymptomatic Cavalier are almost always a sign the dog has the large platelets that are common in this breed. A manual recount can substantiate this. **If the only unusual condition is large platelets in a Cavalier, with no other symptoms of a clotting disorder, treatment isn't needed.**

Because dogs with genuine thrombocytopenia can be in a life-threatening condition by the time they are diagnosed, veterinarians noting low blood platelet counts are often anxious to start treatment promptly; aggressive courses of corticosteroids or immunosuppressive drugs may be prescribed. Removal of the spleen may be recommended in some cases. Unless a Cavalier has other symptoms besides a low platelet count, treatment is rarely if ever advisable. If treatment is provided, it may create serious problems.

Any Cavalier, whether it has normal sized platelets or larger ones, has the potential to develop true thrombocytopenia, and these cases should of course be treated. Some causes of thrombocytopenia include immune-mediated disease, bone marrow failure to produce

adequate platelets, tick-transmitted diseases such as ehrlichiosis and Rocky Mountain spotted fever, and ingestion of toxins such as rat poison, among others. Symptoms can include nosebleeds, blood in the urine, dark stool from digestive tract bleeding, bruising on the skin, or small red spots on the white parts of the eyes, the gums, or the skin; or. Dogs swallowing blood from the mouth will have very fetid breath. Dogs showing these symptoms should receive immediate veterinary attention.

Many Cavalier owners don't know that their dogs may have oversized platelets. Many veterinarians are unaware that large platelets occur in Cavaliers, which is not surprising since the condition is unique to this breed, and most veterinarians see relatively few Cavaliers in their practices. Increasing awareness that large platelets are found in nearly a third of all Cavaliers and do not present a problem may help avoid incorrect diagnoses and treatment.

Dr. Kim Hamer, DVM, a veterinarian and Cavalier owner, has written an excellent outline of the Cavalier platelet situation. With her permission, we are reprinting her notes from a CKCS Club of Greater Atlanta presentation on "Asymptomatic Thrombocytopenia and Macrothrombocytosis in the Cavalier King Charles Spaniel." You may wish to include a copy of this in the packet you send home when placing a puppy or to request that your veterinarian place a copy in your dogs' file for future reference.

An Internet search will produce numerous results for Cavaliers and/or thrombocytopenia. Links to three worthwhile sites are shown below:

---

<http://www.thecavalierclub.co.uk/health/platelet.htm>

<http://www.candog.com/cavaliers/Health/platelet.htm>

<http://www.petplace.com/articles/artShow.asp?artID=74>