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WORK-UP OF A DOG OR CAT WITH ANEMIA

How to work-up anemia in a dog or cat

Anemia may be defined by a reduction in decreased oxygen carrying capacity of the blood. It is caused by diseases causing decreased erythrocyte production, loss of erythrocytes, destruction of erythrocytes or a combination of these. In case of blood loss or hemolysis, the history and physical exam may give clear indications such as amongst others shock, hematemesis, melena, hemothorax, hemoabdomen in blood loss anemia and for example hemoglobinuria and icterus in case of hemolysis. Both in hemolysis and blood loss anemia the presence of a clear regenerative response of the erythrocytes, evidenced by a reticulocytosis, may be expected in the results from hematologic blood examination. Even if bone marrow red cell production is adequate, it will take a minimum of 2-5 days before the newly produced reticulocytes will be visible in the blood smear. Besides being visible in the reticulyte stain reticulocytes may be recognised based on their morphologic features in the blood smear. When assessing reticulocytosis it should be taken in to account that reticulocytes may be released prematurely in case of severe anemia. If such, poorly, differentiated reticulocytes are visible in the smear, the clinician should realize that the degree of reticulocytosis should be interpreted with caution since the measured number of reticulocytes in this case is not an adequate representation of the production of erythrocytes. It is customary to use a correction factor when interpreting the reticulocyte count in these cases. Red cell osmotic fragility testing may be helpful to identify hemolysis. In cases of acute blood loss also total protein will decrease.