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Lecture title: Hematology

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Summary:

Bleeding time is a clinical test that measures how quickly a person's blood clots, or how long it takes for bleeding to stop after a small cut. Its primarily used to assess platelet function, as platelets are the first responders in stopping bleeding.

Bleeding Time :

Determination of bleeding time is a simple and sometimes useful tool for

evaluating the efficiency of the capillary –platelet aspect of hemostasis . this technique is necessarily somewhat imprecise.

1-To determine bleeding time ,make a small, deep puncture in clean, dry skin with a lancet. An area relatively devoid of hair should be selected.

2-The time when blood first appears should be noted. As drop of blood accumulate, they should be removed with filter paper every 30 seconds.

3-The operator being careful not to touch the skin . when blood no longer appears from the puncture site. The end point has been reached, and the time should be noted.

{In domestic animals the normal value is from 2 to 5 min}.

The reliability of the bleeding time test depends in large part upon the area selected.

The care taken not to disturb the wound by permitting the filter paper to come in contact with the skin , and the depth of the cuts.

Interpretation of Bleeding Time :

The normal bleeding time of one or Two to Five minutes may be prolonged in the following condition :

1-Defects in the blood vessel wall.

2- Platelets defects resulting from thrombocytopenia or the presence of abnormal platelets.
3- Severe liver disease .

4- Uremia.

5- Administration of large doses of anticoagulants.

6-Von will brands disease.

Interpretation :

1-An increase in the clotting time, with normal values for the bleeding time and platelet count, indicates existence of hemophilia i.e., a deficiency of one or more of the factors necessary for normal coagulation.

2-An increase in both the clotting time and bleeding time (usually associated with normal level of platelets) most probably indicates a deficiency of prothrombin . this is usually due to either.
a-Liver disease as hepatic toxins, hepatitis, obstructive jaundice.

b- Warfarin poisoning.

c- Vitamin (K)deficiency. Inadequate diet from excessive antibiotics either as medicaments or in feed which interfere with bacterial synthesis of vitamin K. Deficiency of bile will interfere with absorption of vitamin K.

d- Massive hemorrhage.

3- A decrease in the number of platelets , producing an increase in the bleeding time is called thrombocytopenia ,the clotting time is normal .this condition may arise from either.

a. Failure of bone marrow to produce adequate number of platelets i.e. in some types of aplastic anemia and leukemia.
b. Excessive destruction of platelets e.g. by spleen or in bacterial or viral infections..

References:

Coles ,E.H. (1968) Veterinary Clinical Pathology. WB Saunders Company Philadelphia and London,