

Instructional Objectives / Learning Outcomes
DMP 775, Veterinary Clinical Pathology
Department of Diagnostic Medicine/Pathobiology
College of Veterinary Medicine, Kansas State University

Chapter 5: Hemostasis

87. Given pertinent historical or physical findings, platelet concentration, PTT, PT, ACT, bleeding time, FDP concentration and/or fibrinogen concentration (*see class cases*):
 - a. List and classify abnormalities using appropriate terms.
 - b. Propose appropriate ideas or conclusions (i.e., diseases, syndromes, or pathologic states) that might cause the defined abnormalities.
 - c. Based on your conclusions or ideas, explain the pathogenesis of each defined abnormality if the abnormality could be caused by the disorder.
88. Explain why or when platelet clumps are found on a blood film. Explain why detecting the presence of platelet clumps is an important aspect of routine blood examinations.
89. List the three major pathologic mechanisms (or combinations) that produce a thrombocytopenia. For each, list common diseases or conditions that produce thrombocytopenia through that process/mechanism.
90. List and recognize the three reasons for a pseudothrombocytopenia.
91. List and recognize the types of disorders or conditions that may cause a “production failure” thrombocytopenia.
92. List and recognize the types of disorders or conditions that may cause a “decreased platelet survival” thrombocytopenia.
93. Compare and contrast destruction thrombocytopenia and consumption thrombocytopenia.
94. List and recognize the mechanisms that may contribute to:
 - a. Infectious thrombocytopenia
 - b. Neoplasia-associated thrombocytopenia
95. Compare and contrast the pathogeneses of the following immune-mediated thrombocytopenias, especially the source of or stimulus for the offending antibody: idiopathic IMT, drug-induced IMT, infection-associated IMT, neonatal alloimmune thrombocytopenia, systemic immune-mediated illness.
96. List and recognize the nonimmunologic causes of decreased platelet survival.
97. List and recognize the two changes in platelet kinetics that can result in a thrombocytosis.
98. Compare or contrast a clonal thrombocytosis and a reactive thrombocytosis.
99. List the common causes of thrombocytosis and recognize other causes of all thrombocytoses.
100. Contrast and compare bleeding time procedure with clotting time assays.
101. Describe the special sample collection and handling that is required for the plasma that is used for PTT and PT assays.
102. List the clotting factors or hemostasis processes that are evaluated by a:
 - a. PTT
 - b. ACT
 - c. PT
 - d. TT
 - e. FDP
 - f. Fibrinogen concentration
103. List the possible defects in the hemostasis system that result in the following abnormalities.

- a. Prolonged PTT
 - b. Prolonged ACT
 - c. Prolonged PT
 - d. Prolonged TT
 - e. Increased FDP
 - f. Decreased fibrinogen concentration
104. State the major pathologic process that results in increased FDP or D-dimer concentrations.
105. Explain why knowledge of FDP concentration helps with the interpretation of PT, PTT, TT, ACT, and BMBT results.
106. Explain how the following disorders result in a hemostasis defect.
- a. Diseases that cause thrombocytopenia
 - b. Hepatic disease
 - c. Rodenticide or other anticoagulant toxicosis
 - d. Cholestasis
 - e. Malabsorptive or maldigestive disorders
 - f. Fulminant DIC

107. Explain the following concurrent findings.

Case	Platelet concentration	BMBT	PTT	PT
A	↓	WRI	WRI	WRI
B	↓	↑	WRI	WRI
C	WRI	↑	WRI	WRI
D	WRI	WRI	↑	WRI
E	WRI	WRI	WRI	↑
F	↓	WRI	↑	↑
G	↓	↑	↑	↑

108. List diseases, disorders, or conditions that might cause the following.

- a. Prolonged TT and hypofibrinogenemia
 - b. Prolonged TT and WRI fibrinogen concentration
109. Extra credit material
- a. MPV: p. 173-175
 - b. Reticulated platelets: p. 177
 - c. PSAIg and related tests: p. 177-178
 - d. vWf: p. 178-181
 - e. Lee-White clotting time: p. 188
 - f. INR: p. 191-192
 - g. Other specific coagulation factors: p. 193-194
 - h. PIVKA: p. 195
 - i. RVVT: p. 195
 - j. Endogenous anticoagulants: p. 195-197
 - k. Thrombosis: p. 210-211