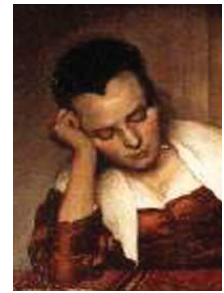


CASE TEACHING NOTES *for* "A Case of Thrombocytopenia"

by

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INTRODUCTION

Platelets are cytoplasmic fragments of larger cells called megakaryocytes located in hemopoietic tissue. Platelets play a vital role in hemostasis via the formation of a platelet plug. A deficiency of platelets in the circulation is termed thrombocytopenia and can result in excessive hemorrhage at sites of blood vessel injury or, in cases of severe thrombocytopenia, very small hemorrhage across intact blood vessel walls. Thus, the educational benefit of studying a case of thrombocytopenia is to reinforce an understanding of normal platelet production, normal platelet physiology, and the role played by platelets in hemostasis.

Objectives

Upon completion of the case, students will have learned the following:

- The anatomic location and stimulus for platelet production.
- The role of platelets in hemostasis and the consequences of a low platelet count.
- The causes and treatment of thrombocytopenia.
- The influence of the spleen on the number of circulating platelets.

This case study has been used in a sophomore-level course in human anatomy and physiology taught to pre-med and nursing students. In addition, it has been used in a senior-level elective course in general physiology taught primarily to pre-med students.

CLASSROOM MANAGEMENT

Students receive a printed copy of the case study after completion of the lectures covering the unit on blood and one week prior to the class in which it will be discussed. Students are asked to review the concepts covered in the unit that are pertinent to the case and then answer the questions to the best of their ability. Classes range in size from 20 to 30 students. Although I don't arrange the students in groups, I encourage them to work together in preparing the case. Reference materials are available on reserve in the college library, but most students use the internet as their primary source for answers to the questions.

Students are not required to turn in written answers to the questions, but rather, are called upon at random to answer the questions during the class discussion. Often, the discussion of the answer to each question goes beyond the initial scope of the question. Interestingly, students who tend to not ask or answer questions during the lecture portion of the course, are often the most participatory when discussing the case studies. Also, I have never failed to learn something new from the students concerning a case, no matter how many times I have used a particular case study.

Questions concerning the material covered in the case study are included in the next regularly scheduled examination. The questions are in the form of short-answer essay, requiring a short paragraph to answer.

Typically three case studies will be covered on each 100 point exam, with one question per case study valued at 5 points each. Though they are not verbatim, the questions follow very closely those that the students were required to answer prior to the class discussion.

Answer Key

Answers to the questions posed in the case study are provided in a separate answer key to the case. Those answers are password-protected. To access the answers for this case, go to [the key](#). You will be prompted for a username and password. If you have not yet registered with us, you can see whether you are eligible for an account by reviewing our [password policy](#) and then apply online or write to answerkey@sciencecases.org.

REFERENCES

Print

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Guyton, A.C., and J.E. Hall. 2000. *Textbook of Medical Physiology* (10th ed). Philadelphia: W.B. Saunders Co.

Martini, F.H., 2004. *Fundamentals of Anatomy & Physiology* (6th ed). San Francisco: Benjamin Cummings.

Internet

Thrombocytopenia; Medical Breakthroughs.

<https://scc.healthcentral.com/bcp/main.asp?page=ency&id=215&ap=93&brand=27>

Thrombocytopenia (reduced platelet count); Netdoctor.

<http://www.netdoctor.co.uk/diseases/facts/thrombocytopenia.htm>

Idiopathic Thrombocytopenic Purpura; eMedicine. *Registration required.*

<http://www.emedicine.com/emerg/topic282.htm>

About ITP; Platelet Disorder Support Association.

<http://www.itppeople.com/aboutitp.htm>

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