



► *Mediation of Cardiovascular Disease by Inflammation: A Look at C-Reactive Protein as an Indicator*

Questions

1. An emerging concept of cardiovascular disease is that it is:
 - a. a lipid storage disorder.
 - b. an acute phase protein disorder.
 - c. a maternally-acquired genetic disorder.
 - d. an inflammatory disorder.
2. Inflammatory cytokines produced by inflamed atheromas, hypertensive arteries and aortic aneurysms are:
 - a. IL-8, IL-10 and IL-22.
 - b. IL-1, IL-6 and TNF- α .
 - c. IL-2, IL-4 and lymphokine.
 - d. IL-18, IL-12 and IL-6.
3. All of the following are protective effects attributed to acute phase proteins except:
 - a. blockade of oxidant-induced tissue injury.
 - b. acidification of cellular proteases.
 - c. resolution of necrotic tissue.
 - d. arrest of bleeding.
4. Examples of on-going low-level inflammatory conditions associated with cardiovascular disease are:
 - a. periodontitis.
 - b. gingivitis.
 - c. ulcerative colitis.
 - d. all of the above.
5. Coincident with the onset of the cardinal signs of acute inflammation is the:
 - a. inhibition of cellular metabolism.
 - b. addition of methyl groups to serine proteases.
 - c. alteration of serum concentrations of proteins made by the liver.
 - d. synthesis of inhibitors of acetylcholine.
6. Generally, the magnitude of the serum CRP increase in response to inflammatory mediators is:
 - a. directly related to degree of severity of the tissue injury.
 - b. indirectly related to serum haptoglobin levels.
 - c. amplified to such a dramatic extent as to be life-threatening.
 - d. not related to measurable components of tissue injury.
7. What form of CRP is involved in generation of foam cells and atherosclerotic processes?
 - a. native CRP
 - b. CRP peptides
 - c. CRP in modified form
 - d. CRP monomers
8. What range of serum CRP levels has been used in prognostic assessment of CVD?
 - a. 100 – 200 $\mu\text{g/mL}$
 - b. 300 – 1000 $\mu\text{g/mL}$
 - c. 0.1 – 0.5 $\mu\text{g/mL}$
 - d. 3 – 10 $\mu\text{g/mL}$
9. What relationship has been observed between serum CRP level and apoE polymorphisms?
 - a. CRP levels are higher in apoE2 and apoE3 homozygotes.
 - b. CRP levels are higher in apoE3/4 or apoE4/4 heterozygotes.
 - c. CRP levels are lower in apoE2/3 and apoE2/4 heterozygotes.
 - d. There is no reported relationship between CRP levels and apoE polymorphisms.
10. What type of inflammation has been associated with CVD or atherogenesis?
 - a. acutely manifested, high level inflammatory response
 - b. chronically manifested, high level inflammatory response
 - c. acutely manifested, low level inflammatory response
 - d. chronically manifested, low level inflammatory response
11. A diet rich in refined grains, red meat, pizza, soft drinks, desserts, processed meat and high fat dairy products causes serum CRP levels to:
 - a. increase.
 - b. decrease.
 - c. not change.
 - d. increase after a meal and then decrease within an hour.
12. The probability of cardiovascular disease-free survival in women is highest in the:
 - a. low CRP-low LDL group.
 - b. low CRP-high LDL group.
 - c. high CRP-low LDL group.
 - d. high CRP-high LDL group.
13. Serum CRP levels are elevated in:
 - a. individuals with high vitamin C intake.
 - b. subjects with low body mass index.
 - c. young people.
 - d. smokers.
14. CRP and TNF- α show significant association with CVD-related events in:
 - a. men.
 - b. women.
 - c. children.
 - d. infants.
15. How do phenolic compounds in wine reduce cytokine-induced serum CRP levels?
 - a. at the level of DNA replication
 - b. at the level of mRNA production
 - c. at the level of protein synthesis
 - d. Components in wine have no effect on CRP levels.
16. Fill in the blank. Metabolic syndrome describes a population at high risk for CVD. By definition, these individuals have ____ of the following clinical characteristics: upper body obesity, hypertriglyceridemia, low HDL, hypertension and abnormal glucose.
 - a. one or more
 - b. more than two
 - c. more than three
 - d. more than four
17. What is the correlation between serum CRP level and ethnic or socioeconomic group?
 - a. There is no correlation.
 - b. African-Americans, Hispanics and South Asians tend to have high CRP levels.
 - c. Individuals with higher levels of education tend to have lower CRP levels.
 - d. both B and C
18. CRP is predictive of CVD in women receiving hormone replacement therapy only when elevated serum CRP level is coupled with:
 - a. elevated LDL.
 - b. elevated IL-1.
 - c. elevated IL-6.
 - d. elevated total cholesterol.
19. A known function of CRP is:
 - a. activation of neutrophil movement.
 - b. activation of complement.
 - c. inhibition of phagocytosis.
 - d. No definitive CRP functions have been identified yet.
20. Single nucleotide polymorphisms in the CRP gene:
 - a. have not been identified.
 - b. have a strong association with serum CRP level.
 - c. have a weak association with serum CRP level.
 - d. have no association with serum CRP level.



Answers

- | | |
|---------------------|---------------------|
| 1. (A) (B) (C) (D) | 11. (A) (B) (C) (D) |
| 2. (A) (B) (C) (D) | 12. (A) (B) (C) (D) |
| 3. (A) (B) (C) (D) | 13. (A) (B) (C) (D) |
| 4. (A) (B) (C) (D) | 14. (A) (B) (C) (D) |
| 5. (A) (B) (C) (D) | 15. (A) (B) (C) (D) |
| 6. (A) (B) (C) (D) | 16. (A) (B) (C) (D) |
| 7. (A) (B) (C) (D) | 17. (A) (B) (C) (D) |
| 8. (A) (B) (C) (D) | 18. (A) (B) (C) (D) |
| 9. (A) (B) (C) (D) | 19. (A) (B) (C) (D) |
| 10. (A) (B) (C) (D) | 20. (A) (B) (C) (D) |

Survey

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| <p>1. To what extent were the objectives stated at the beginning of the article met?</p> <p>a. completely
b. some
c. a little
d. not met</p> <p>2. How long did it take you to complete both the reading and the quiz?
_____ minutes</p> <p>3. How much of this article can you apply in practice?</p> <p>a. all
b. some
c. very little
d. none</p> <p>4. This program is used to meet CE requirements for:</p> <p>a. state license.
b. NCA.
c. employment.
d. other.</p> | <p>5. How would you rank the quality of this article?</p> <p>a. superior
b. good
c. fair
d. poor</p> <p>6. How many years have you been a laboratory professional?</p> <p>a. less than 5
b. 5-10
c. 10-20
d. more than 20</p> <p>7. What topics would you like to see covered in future Learning Scope articles?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> |
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