**Problem 1**

Patient A., 12 years old, was admitted with a diagnosis of "acute abdomen."

Complaints: loss of appetite, persistent pain in the right iliac fossa, flatulence, general weakness; fever - 38.9°C.

Objective: Pale skin, abdomen sensitive to palpation, painful.

Complete blood count: neutrophilic leukocytosis, ESR - 40 mm/h (normal 5-15 mm/h); fibrinogen - 9 g/l (normal 2-4 g/l), C-reactive protein - 12 mg/dl (normal <0.5 mg/dl), elevated amyloid A levels.

Questions:

1. What molecular pattern contributed to the onset and development of appendix inflammation? Which components are related to the exogenous molecular pattern?
2. What molecular pattern contributed to the onset and development of inflammation caused by cellular damage induced by physical, chemical, and mechanical factors?
3. What types of PRRs (Pattern Recognition Receptors) and with what cellular localization interact with PAMPs and DAMPs?
4. What type of inflammation (acute or chronic) has developed in the patient, and what biochemical changes confirm the type of inflammation?
5. Deduce the pathogenetic chain of proinflammatory cytokine synthesis initiated by PAMPs.
6. What are the pathogenetic factors that contribute to the development of inflammatory edema in the patient?
7. What type of exudate forms in this patient? What is the biological significance of exudation in acute inflammation?
8. What is C-reactive protein, and what is its role in inflammation?
9. What is the role of serum amyloid in inflammation?
10. Which cytokines induce the general clinical manifestations (loss of appetite, general weakness; fever - 38.9°C) in the acute phase reaction?
11. What types of macrophages do you know? Which type predominates in acute inflammation, and what is their pathogenetic role?
12. Which type of macrophages predominates in chronic inflammation, and what is their pathogenetic role?