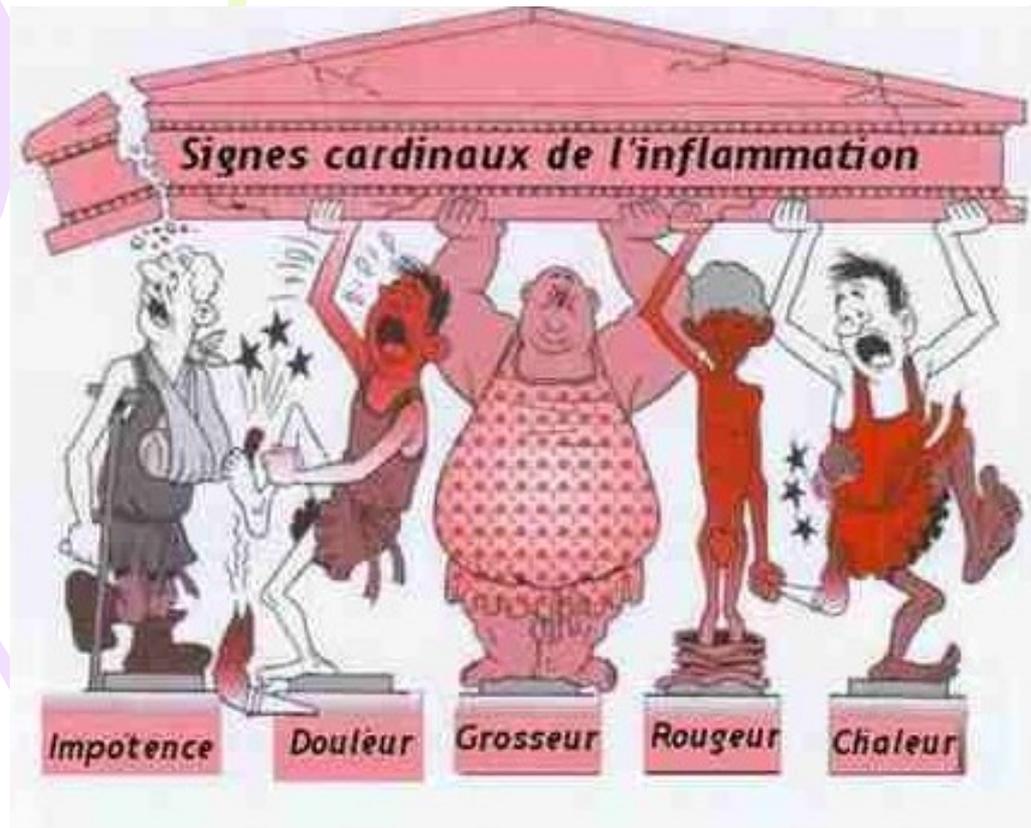


Department of biological and general chemistry
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BIOCHEMISTRY OF INFLAMMATION

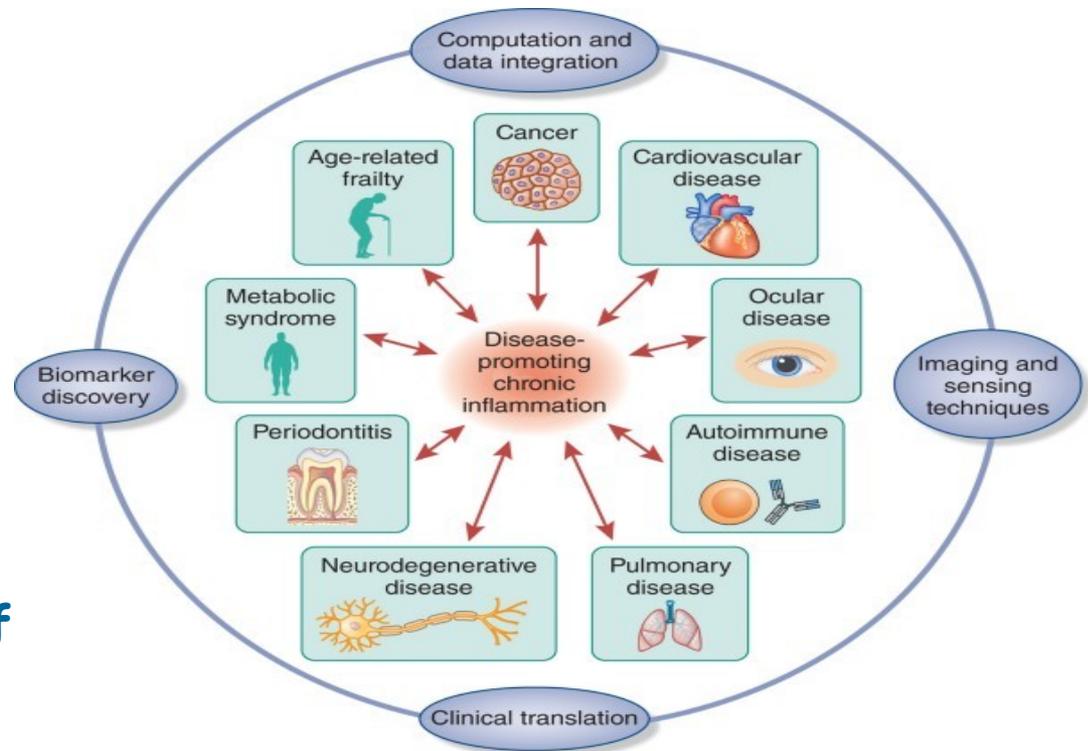
Elective course



Relevant issues

Inflammation belongs to those biological phenomena, the nature of which has not yet been uniformly understood. It is believed that inflammation is a protective reaction of the body that occurs in response to tissue damage by various factors.

- ✓ Why does a “cytokine storm” occur?
- ✓ Why do autoimmune inflammatory processes occur?
- ✓ Why more and more “non-inflammatory” diseases are associated with the presence of an inflammatory reaction?
- ✓ How is defined prognosis of inflammatory process at the current stage?

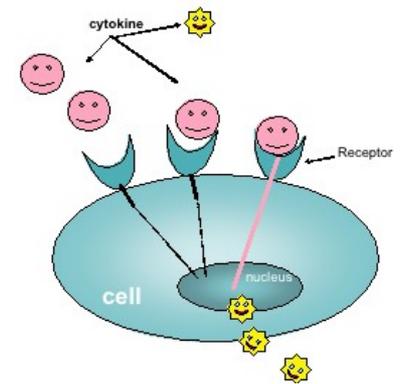


Potential contributors and therapeutic targets:

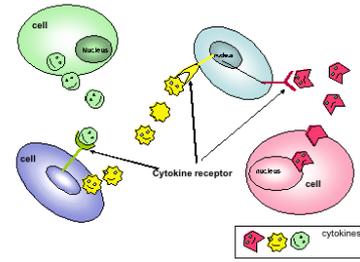
- Accumulation of senescent cells
- Unresolved infection
- Dysbiosis
- Activated microglia and macrophages
- Cytokine and chemokine dysregulation
- Imbalance between pro-inflammation mediators and pro-resolution mediators
- Gene mutations
- Epigenetic modifications
- Lifestyle risk factors

The purpose of studying elective course is

- to form of a system of knowledge and practical skills in higher education students about the understanding of biochemical mechanisms of inflammation, methods of laboratory diagnosis of the inflammatory process, the latest markers of the inflammatory process and evaluation of anti-inflammatory drugs.



Objectives of elective course «Biochemistry of inflammation»



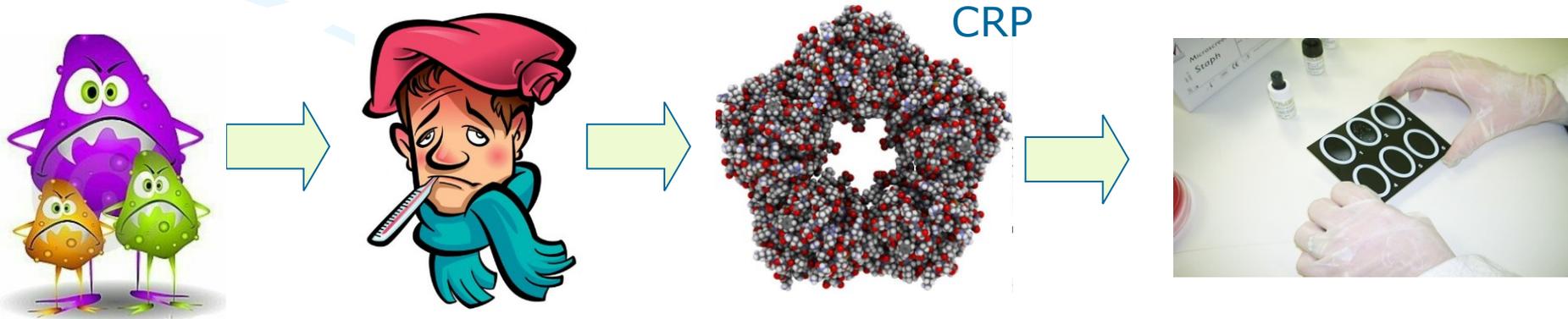
- ✓ **Formation of a system of knowledge and practical skills regarding**
 - *understanding of the molecular mechanisms of the inflammatory process; structure and functions of inflammatory mediators; types of acute phase proteins and their biological significance;*
 - *the importance of nuclear transcription factors, heat shock proteins (HSP), cytokines, growth factors, the family of toll-like receptors (TLR) in the development of inflammation;*
 - *participation of biologically active gas mediators in inflammatory mechanisms (NO, H₂S, CO);*
 - *mechanisms of anti-inflammatory action of glucocorticoids, nonsteroidal anti-inflammatory drugs, biological therapies.*
- ✓ **Introduction to the latest methods of laboratory diagnosis of inflammatory process in various organs and tissues** (*the role of procalcitonin, presepsin, TLR et al.*).
- ✓ **Practical skills in determining the most commonly used laboratory markers of inflammation in biological fluids**

The results of the study

The discipline is a link between theoretical and clinical disciplines that form the profile of the master of medicine, dentistry and pharmacy

The study of elective course will allow

- reasonably apply the results of clinical and biochemical laboratory tests for the diagnosis and monitoring of the inflammatory process in various pathological conditions, evaluate the effectiveness of anti-inflammatory drugs;
- demonstrate the ability to independently search, analyze and synthesize information from various sources to solve typical problems of professional activity in aspects of inflammatory processes;
- to analyze the information received as a result of scientific researches on biochemistry of an inflammation, to generalize, systematize and use it in professional activity, to understand modern terminology of biochemistry of an inflammation.



The course “Biochemistry of inflammation” – at your service! Make your choice!

