IL-1 impacts the manifestation of several inflammatory symptoms\(^1\,^2\)

The role of interleukin-1 in autoinflammatory and autoimmune disease

IL-1 impacts the manifestation of several inflammatory symptoms\(^1\,^2\)

References:

The activation of IL-1 results in a cascade of inflammatory mediators

- Headache
- Fatigue
- Rash
- Swollen joints
- Tender/painful joints
- Fever
- Vomiting
- Swollen joints
- Fatigue
- Rash
- Headache

If you would like to know more about the role of IL-1 and would like our Medical and Scientific Liaison Inflammation Expert to contact you, please fill in the following information and they will contact you:

Please note if you provide your email address they will contact you via email so please tick box to give permission for use.

Name:

Speciality:

Hospital address:

Email address:
IL-1: The gatekeeper of inflammation

- Interleukin-1 (IL-1) is a master cytokine of local and systemic inflammation and can contribute to the pathogenesis of a growing list of diseases.

IL-1α and IL-1β impact a broad spectrum of disease symptomologies

- IL-1α and IL-1β are related, but distinct, IL-1 genes.
- Both IL-1α and IL-1β can bind to the surface of a variety of cells throughout the body.
- This binding of either form of IL-1 results in a cascade of inflammatory mediators, manifesting in symptoms such as:
  - Rash
  - Joint pain
  - Vomiting
  - Headache

IL-1α is present in all mesenchymal cells— even in healthy individuals

- Unlike with IL-1β, the IL-1α precursor is biologically active.
- IL-1α can exert the same effects as IL-1β, exacerbating production of IL-1β in inflammatory syndromes.
- IL-1α can mobilize to the surface of the cell, where it can activate IL-1 receptors on other cells.
- Active IL-1α may also be released from the cells, which can initiate sterile inflammation.

IL-1β and IL-1α are equally important in inflammatory disease

- In healthy situations, IL-1β is only produced when needed as a part of a response by the innate immune system.
- Inactive IL-1β is manufactured by certain types of white blood cells (monocytes, macrophages, and dendritic cells), processed to form active IL-1β, and then secreted into circulation.

The activation of IL-1 can result in symptoms such as fever, rash, joint pain, vomiting, and headache.

Blocking both IL-1β and IL-1α may provide therapeutic benefit in autoinflammatory and autoimmune diseases

References:
4. Contassot E, Beer H-D, French LE. Interleukin-1, cytokines and other cytokines, manifesting in symptoms such as:
  - Rash
  - Fever
  - Gastrointestinal discomfort
  - Fatigue
  - Headache

Autoimmune and autoinflammatory diseases should be viewed as two ends of a continuum of inflammatory disease.

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2. Contassot E, Beer H-D, French LE. Interleukin-1, cytokines and other cytokines, manifesting in symptoms such as:
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  - Fever
  - Gastrointestinal discomfort
  - Fatigue
  - Headache

In autoimmune disease:

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- Both IL-1α and IL-1β can bind to the surface of a variety of cells throughout the body.
- This binding of either form of IL-1 results in a cascade of inflammatory mediators, chemokines and other cytokines, manifesting in symptoms such as:
  - Joint pain
  - Fever
  - Gastrointestinal discomfort
  - Hypertension
  - Neutrophilia
  - Rash
  - Fatigue
  - Headache
  - Nausea
  - Thrombocytosis
  - Inflammasomes
  - Autoinflammation
  - Skin rash, joint pain, vomiting, and headache.

IL-1α is present in all mesenchymal cells—even in healthy individuals

- Unlike with IL-1β, the IL-1α precursor is biologically active.
- IL-1α can exert the same effects as IL-1β, contributing to the production of IL-1β in inflammatory syndromes.
- IL-1β can activate IL-1 receptors on other cells.
- Active IL-1α may also be released from the cells, which can initiate sterile inflammation.

Blocking both IL-1β and IL-1α may provide therapeutic benefit in autoinflammatory and autoimmune diseases

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IL-1 plays an important role in autoinflammatory and autoimmune diseases

- IL-1 is proven to play a key role in the damaging effects on bones and joints.
- Arthritis
- Spondylarthropathy
- Cartilage breakdown
- Bone resorption

Autoimmune and autoinflammatory diseases should be viewed as two ends of a continuum of inflammatory disease

- Autoimmune
- Inflammatory

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- Both IL-1α and IL-1β can bind to the surface of a variety of cells throughout the body.
- This binding of either form of IL-1 results in a cascade of inflammatory mediators, chemokines and other cytokines, manifesting in symptoms such as:
  - Rash, joint pain, vomiting, and headache.
  - Fever, gastrointestinal discomfort, fatigue, headache.
  - Hypotension, neutrophilia, thrombocytosis.
  - Inflammation as a part of a response by the innate immune system.

IL-1α is present in all mesenchymal cells—even in healthy individuals

- Unlike with IL-1β, the IL-1α precursor is biologically active.
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- Active IL-1α may also be released from the cells, which can initiate sterile inflammation.

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\begin{itemize}
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  \item Swollen joints
  \item Tender/painful joints
  \item Fever
  \item Rash
  \item Fatigue
  \item Vomiting
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Fatigue
Headache
Rash
Swollen joints
Tender/painful joints
Fever
Rash
Vomiting
Fatigue

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