Immune Misfire:
Autoimmunity and Immune-Mediated Inflammatory Disease
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Inflammation & Immunity Review

Infectious Illness

- Microorganism:
- Virulence
- Portal of Entry

Host:
- PMH & Age
- Immune Function

Defense Mechanisms
- Innate
- Adaptive
- Anatomic
- Mechanical
- Immunity
- Inflammation

Signs of Inflammation
- Redness
- Heat
- Swelling
- Pain
- Loss of Function

Inflammatory Vascular Response
- Vasocnsrtion → Vasodilation
- Exude
- WBC movement
**Inflammatory Mediators**

Chemical Mediators

- Interleukins (IL-1)
- Histamine
- Platelet-Activating Factor
- Arachidonic Acid
- Tumor Necrosis Factor

**Cellular Response Players**

Granulocytes
- Neutrophils
- Basophils
- Eosinophils
- Platelets

Monocytes/Macrophages

**Cellular Response Overview**

- Back-up Systems
  - Compliment System
  - Kinin System
  - Clotting System

**Mast Cells**

- Mediators
- Histamine
- Prostaglandins

**Inflammation: Pulling It All Together**
**Signs of Systemic Inflammation**
- Fever
- Leukocytosis
- Plasma Protein Increase

**Comparison of Characteristics of Inflammation & Immunity**
<table>
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<th>Inflammation:</th>
<th>Immunity:</th>
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<tr>
<td>Memory</td>
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<td>Specificity</td>
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<tr>
<td>Timing:</td>
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<tr>
<td>- Rapid response</td>
<td>- Slow response</td>
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<td>- Short duration</td>
<td>- Long duration</td>
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<td>Low Diversity</td>
<td>High Diversity</td>
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**Immune Response**
- Players
  - Antibodies
  - Lymphocytes
- Antigen
- Immunogen

**Types of Immunity**
- Natural Immunity
- Acquired Immunity
  - Active Acquired
    - Exposure
    - Immunization
  - Passive Acquired
    - Maternal-Fetal
    - Gamma Globulin
    - Immunizations

**T-Lymphocytes**
- Cell-Mediated Immunity
  - Helper cells
  - Suppressor cells
  - Cytotoxic cells

**B-Lymphocytes**
- Humoral Immunity
  - Antibodies:
    - IgG
    - IgA
    - IgM
    - IgE
    - IgD
    - "GAMED"
Functions of Antibodies

Immune Mediated Inflammatory Disorders (IMID): Overview
- Close association with autoimmune disorders.
- Immune function dysregulation diseases.

IMID Defined
- The Pathophysiology big picture.

Thyroid Disease
- Hashimoto's thyroiditis
- Graves' Disease
- Incidence
- Pathophysiology
- Symptoms
- Prognosis

Rheumatoid Arthritis
- Incidence
- Pathophysiology
- Symptoms
- Prognosis

Systemic Lupus Erythematosus
- Incidence
- Pathophysiology
- Symptoms
- Prognosis
Sjögren's Syndrome
- Incidence
- Pathophysiology
- Symptoms
- Prognosis

Uveitis
- Incidence
- Pathophysiology
- Symptoms
- Prognosis

Fibromyalgia
- Incidence
- Pathophysiology
- Symptoms
- Prognosis

Celiac Disease; Crohn's Disease & Ulcerative Colitis
- Incidence
- Pathophysiology
- Symptoms
- Prognosis

Scleroderma
- Scleroderma:
  - Localized: Morphea plaque
  - Generalized
  - Raynaud's Phenomenon
- Incidence
- Pathophysiology
- Symptoms
- Prognosis

Goodpasture Syndrome
- Incidence
- Pathophysiology
- Symptoms
- Prognosis
Ankylosing Spondylitis
- Incidence
- Pathophysiology
- Symptoms
- Prognosis

Psoriasis or Psoriatic Arthritis
- Incidence
- Pathophysiology
- Symptoms
- Prognosis

Multiple Sclerosis
- Incidence
- Pathophysiology
- Symptoms
- Prognosis

The Future of IMID
- A BRIGHT future!
- TNF-antagonists
- Recombinant DNA.
- Antagonist agents.
- Immunosuppressants

Questions?