



PRESENTS...

## Natural Approaches to Arthritic Conditions

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Section I

## **INFLAMMATION AND ARTHRITIS**



# Inflammation

- Inflammation is a *very* complex reaction to injurious agents (i.e. infections, trauma, chemicals, etc.)
- First described in 3000 BC, by the four signs of inflammation:
  1. *Rubor*: redness
  2. *Tumor*: swelling
  3. *Calor*: heat
  4. *Dolor*: pain

# Inflammatory Process

- When part of the body is damaged, various *cellular* and *vascular* changes take place

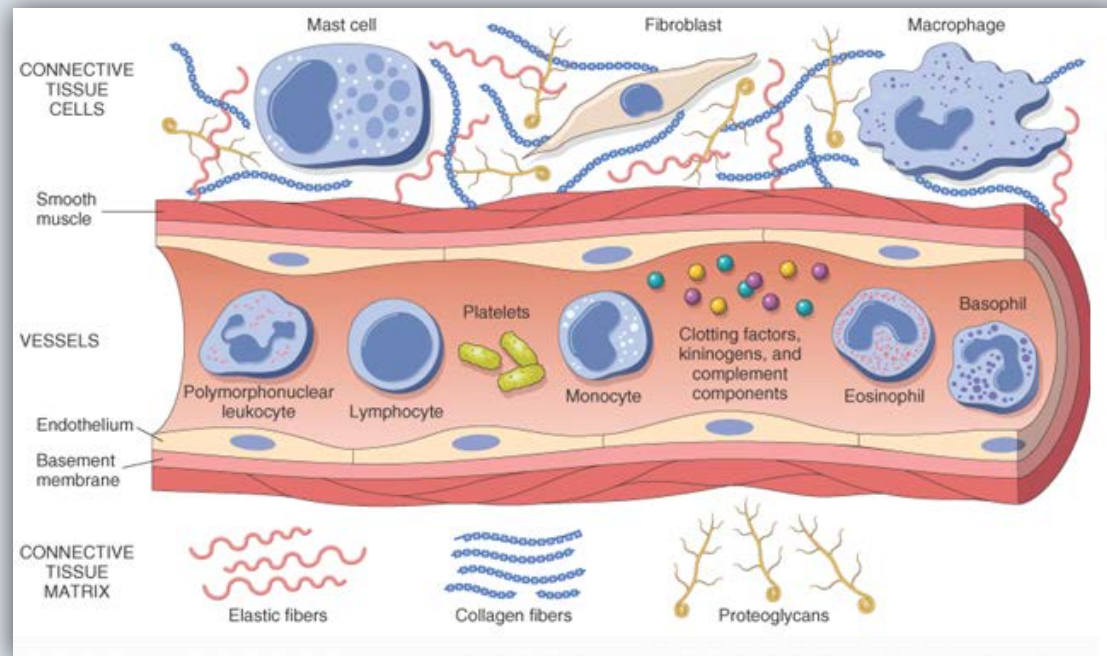


Figure 2-1: Pathologic Basis of Disease, Robbins and Cotran

# Inflammation at the Cellular Level

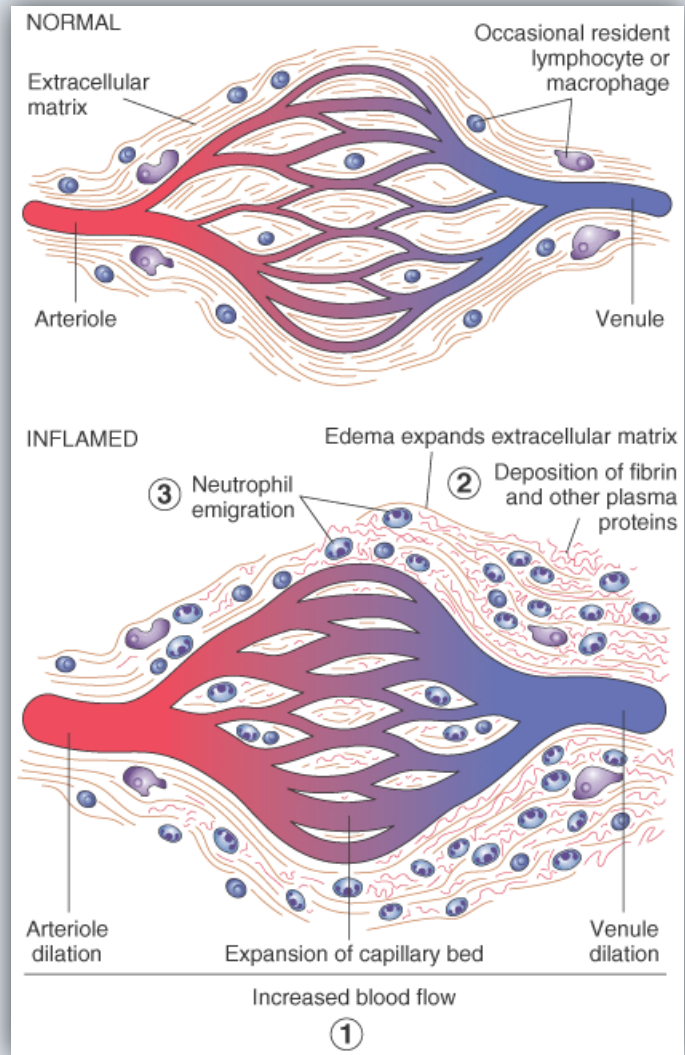


Figure 2-2: Pathologic Basis of Disease, Robbins and Cotran



## Inflammation Protects Us!

- Allows the body to ‘*get rid of*’ the causative agent
  - Without it, wounds would never heal, infections would never go away, and life would be largely unsustainable
- But what happens when the inflammatory process doesn’t turn off?



# Inflammation: The Underlying Cause of *All* Disease

- When the inflammatory process acts improperly or fails to shut off, the result can be debilitating disease
  - Called '*Chronic Inflammation*'
  - Constant redness, swelling, and pain
  - Eventually it can permanently scar or disfigure joints, causing extreme pain



## Developing Chronic Inflammation

- Various causes
  - Persistent infections
  - Prolonged exposure to toxins
  - Wear and tear
  - **Autoimmunity**



# *-itis* Means Inflammation

- *-itis*: a Greek suffix denoting disease characterized by inflammation
- This way, you can recognize inflammatory diseases:
  - Appendicitis
  - **Arthritis**
  - Blepharitis
  - Bronchitis
  - Conjunctivitis
  - Diverticulitis
  - Meningitis
  - Nephritis
  - Tonsillitis
  - Vasculitis
  - Etc. etc.



# What is Arthritis?

- *Arthritis*: painful **inflammation** and stiffness of one or more joints
- It can affect any joint in the body
- 70% of people over 65 are affected



# Types of Arthritis

- There are over *100* different forms of arthritis
- The most common types are
  - Rheumatoid arthritis ~ chronic, systemic inflammation
  - Osteoarthritis ~ degenerative joint disease
  - Gout ~ deposition of crystals in the joint space



Section II

# RHEUMATOID ARTHRITIS



# Rheumatoid Arthritis (RA)

- Chronic inflammatory condition that affects the entire body
  - Typically the joints of the hands, feet, wrists, ankles or knees are affected
  - Other organs and tissues can also be affected



## Causes

- Autoimmune reaction where the body develops an immune attack against certain tissues (typically joint tissue)
- Many factors contribute to the disease
  - Genetics
  - Environmental factors



# Symptoms

- Fatigue, low-grade fever, weakness and stiffness precede painful swollen joints
- Typically symmetrical (i.e. both hands, wrists, ankles etc...)
- Affected joints are often warm and tender to touch and visibly swollen
- As disease progresses can cause deformities in the joints of the hands and feet



# Treatment Options

- Diet
  - Pineapple – contains bromelain which helps reduce inflammation
  - Ginger – helps inhibit inflammation
  - Brightly coloured fruits and vegetables
- Anti-oxidants
  - Vitamins A, C, E
  - Zinc, Selenium
  - Bioflavonoids – support collagen structure and reduce inflammation (found in citrus fruit, berries, red wine, dark chocolate)
- Physical Therapy – improves comfort and preserves joint and muscle function
  - Strengthening and range-of-motion exercise
  - Hot Epsom salt baths : increases absorption of trace minerals (magnesium, zinc, selenium) causing relaxation, anti-inflammatory, and anti-oxidant reaction





Section III

# OSTEOARTHRITIS

# Osteoarthritis (OA)

- Joint degeneration and loss of cartilage
  - Typically found in the weight bearing joints (hip, knee, spine) and hands are affected
  - 2 types
    - Primary
    - Secondary





# Causes

## Primary OA or “Wear-and-tear”

- Degeneration of the cartilage from chronic use and stress
- Associated with age, excess weight, inactivity

## Secondary OA

- Predisposing factor responsible for degeneration
  - Injury or Trauma
  - Genetics
  - Other inflammatory disease (RA, gout, lupus etc...)
  - Abnormal cartilage



## Symptoms

- Early morning stiffness
- Stiffness after rest
- Pain worse with activity
- Swelling of the affected joint
- Loss of joint function
- Asymmetrical – one or more joints

# OA vs RA

	Osteoarthritis	Rheumatoid Arthritis
Morning Stiffness	Less than 1 hour	More than one hour
Pain	Worse with movement	Better with movement
Cause	Wear and tear	Autoimmune
Joints Affected	Asymmetrical: typically starts in the fingers near nail beds, spreading to large weight bearing joints	Symmetrical: small and large joints
Nodules	Herberden's (DIPs) and Bouchard's (PIPs) nodes	Extensor surface nodules
Gender	50:50	Women > Men (3:1)
Treatment	Anti-inflammatories (NSAIDs)	Anti-Inflammatories, anti-rheumatics (methotrexate) and steroids



# Treatment Options

- Diet
  - Remove nightshade vegetables (potato, tomato, eggplant and pepper) which can trigger inflammation
  - Brightly coloured fruits and vegetables
- High Vitamin C – reduces cartilage loss
- Glucosamine sulphate (an amino sugar), Chondroitin, MSM
  - Improves cartilage repair and inhibits degeneration
- Physical therapy
  - Swimming & walking
  - Weight loss – reduce strain on joints
- Topical application of menthol or capsaicin to relieve pain
  - E.g. Tiger balm (contains both)





Section IV

## GOUT



# Gout

- Deposition of uric acid crystals in the joint
  - Typically found in big toe, but can also be deposited in other joints, tendons, kidneys and other tissues
  - Often associated with kidney stones





## Causes

- High levels of uric acid in the blood caused by:
  - Genetics
  - Insulin resistance
  - High blood pressure
  - Poor kidney function
  - Obesity
  - Poor diet (high fat, simple carbs, excess protein)
  - Excess alcohol



# Symptoms

- Acute intense local joint pain (typically at night)
  - Hot, Swollen, Red
- Periods without symptoms between attacks
- Uric acid kidney stones

# Treatment Options

- Diet
  - Eliminate alcohol
  - Eliminate organ meat, red meat, shellfish, yeast, sardines and anchovies
  - Reduce intake of dried legumes, spinach, asparagus and mushrooms
  - Increase fluids – 8+ cups of water per day
  - Cherries – 2 oz. of cherry juice per day decreases uric acid content
  - Low fat, high fibre diet
- Weight Loss
  - Exercise and healthy diet
- Quercetin
  - Bioflavonoid that inhibits uric acid production





Section V

## **REDUCING AND TREATING INFLAMMATION**



# Fish Oils

- Omega-3 fats are helpful for reducing the molecules associated with inflammation and tissue damage
- Reduces pain and stiffness
- Improves recovery and repair



# Curcumin

- Medicinally active component of turmeric
- Significant anti-oxidant and anti-inflammatory effects
- Properly formulated curcumin is as effective as cortisone and other potent anti-inflammatory drugs at reducing acute inflammation without side effects



# Anti-Inflammatory Diet

- Eliminating or reducing the most inflammatory foods from the diet can greatly reduce symptoms of pain and inflammation





# Acupuncture

- Effective at reducing pain and improving mobility in arthritic joints
  - Triggers release of endorphins that inhibit the perception of pain
  - Improves blood flow and nerve conduction which reduces the pain signal
  - Encourages muscle relaxation to reduce excess tension on joints





# Hydrotherapy

- Hot packs and cold packs are used alternately to increase blood flow through areas of pain thus reducing inflammatory by-products and reducing pain
  - 3 minutes hot water, 1 minute cold water, repeat 3x
  - Always end on cold!
  - Can be done locally with water basins, or full body in the shower (very refreshing!)

# Exercise

- Increasing exercise reduces weight, strengthens muscles and reduces strain on joints affected by arthritis
  - Allows for improved mobility and reduced pain





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**Thank You!**