Chapter 10

Other Medical Issues: Gout (Arthritis), Headaches and Seborrheic Dermatitis

I did the whole show in one position while Danny was dancing around.

- Jim Belushi
  describing a gout attack
  onstage in Reno, Nevada

In Chapter 4, we learned that London physician Sir Alfred Baring Garrod described lithium treatment of gout in his book, *The Nature and Treatment of Gout and Rheumatic Gout* published in 1859. This very old disease that the ancient Egyptians called podagra in 2640 B.C.(1) has plagued famous Americans such as Jim Belushi, Dick Cheney, Luciano Pavarotti and Ansel Adams.

In a *Chicago Tribune* interview (2), Jim Belushi revealed that he first experienced swelling in his big toe in 1996, but ignored it. A year later, during a checkup, Belushi’s doctor told him he had gout. He says an attack that

In 2011, actor comedian Jim Belushi (b. 1954) announced that he has refractory chronic gout.
he experienced during a Blue Brothers performance with Dan Aykroyd finally drove him to seek medical help. Onstage, Jim’s excruciating attack left him immobile standing on the back heel of his foot. He had to stand in one position while Dan danced around the stage.

**What is Gout?**

Gout is a form of acute inflammatory arthritis that usually effects the metatarsal-phalangeal joint at the base of the big toe (in 50% of cases) but can also be present as as tophi (deposit of monosodium urate crystals), kidney stones, or urate nephropathy (urate nephropathy is declining kidney function due to high levels of uric acid in the urine). Patients suffering from gout have pain due to elevated levels of uric acid in the blood that forms crystal deposits in joints, tendons, and surrounding tissues (3).

**Lithium Therapy for Gout and Other Forms of Arthritis**

There are more than 100 different types of arthritis. The most common forms include:

- **Gout**
  Severe joint pain that results from needle-like uric acid crystals. Lithium was used in the 19th century as a treatment for gout when scientists discovered lithium could dissolve uric acid crystals (4).

- **Osteoarthritis (OA)**
  Arthritis that results in degradation and loss of joint cartilage. In 2014, scientists at New York University School of Medicine and Hospital for Joint Diseases found lithium protects against cartilage degradation in osteoarthritis (5).

- **Rheumatoid Arthritis (RA)**
  Swelling in joint linings that can spread to skin, eyes and nerves. The cause of RA is unknown. Infectious agents are suspected. In 1975, researchers at the University of
Colorado Medical Center used lithium to increase granulocyte (white blood cell) count in rheumatoid arthritis with granulocytopenia, also called felty’s syndrome (6).

Note: Most of this chapter describe infectious disease conditions that cause arthritis. It is important to remember that infections can be treated and resolved.

Background: Infections That Cause Arthritis

A list has been provided in Appendix B that includes a wide range of infectious disease conditions that cause arthritis. It is interesting to note that some of the infectious causes of dementia described in the previous chapter have been named in arthritis studies. Examples include:

- **Herpesviruses**
  In 1980, researchers at the University of Pennsylvania, School of Medicine isolated herpes simplex virus and cytomegalovirus in patients with acute monoarticular arthritis (8). Note: Gout is a form of momoarticular arthritis that usually occurs in the big toe. Gout can also be located in ankles, or knees, or other joints.

- **Toxoplasma gondii**
  In 2001, researchers at Maryland’s Uniformed Services University and Johns Hopkins University Medical Center designed a study that looked at the similarities between Schizophrenia and rheumatoid arthritis. Although both diseases have unknown causes, similar infectious agents are suspected—retroviruses, herpesviruses including EBV, and
Toxoplasma gondii. For both diseases, studies have reported greater exposure to cats in childhood than in controls (9).

- **Treponema pallidum**
  Treponema pallidum is a spirochete bacterium that causes diseases such as syphilis, bejel (nonvenereal syphilis), pinta (skin disease), and yaws (skin, bone and joint disease).

  In 2008, researchers at the Royal Infirmary of Edinburgh treated a 27-year-old man with antibiotics when they discovered that his acute monoarthritis of the knee was caused by syphilis (10).

- **Borrelia**
  European physicians have found Lyme arthritis caused by three main pathogenic species of Borrelia burgdorferi sensu lato: Borrelia burgdorferi sensu stricto, Borrelia garinii and Borrelia afzelii. In 2000, researchers at France’s University of Strasbourg found treatment resistant Lyme arthritis caused by Borrelia garinii (11). In 1993, researchers at Colorado’s Fitzsimons Army Medical Center described a patient who had chronic septic Lyme arthritis of the knee for seven years despite multiple antibiotic trials and multiple arthroscopic and open synovectomies (12). In their paper, the authors state that chronic arthritis occurs in 10% of Lyme disease patients.

- **Taenia**
  Taenia solium (a cestode, or pork tapeworm) is named in a chapter titled “Parasitic Arthritis” in *Rheumatology* by Marc C. Hochberg, et al. Parasitic infections are grouped into four subsets: protozoan, cestode, nematode and trematode. Tapeworm infection is called cysticercosis and a tapeworm infection of the brain is called neurocysticercosis. The authors describe symmetric arthritis of the wrists and metacarpophalangeal and proximal interphalangeal joints. They state that parasite infections are poorly recognized by clinicians and confirmatory diagnostic tests are often not available (13).
In 2011, researchers at India’s Bangalore Medical College and Research Institute described a 55 year-old male immunocompetent patient with disseminated (spread throughout the body) cysticercosis who had involvement of the brain, subcutaneous tissues, lungs and skeletal muscles who was asymptomatic except for arthritis of the knee that was present for two months (14).

**Toxocara**
Toxocara is a helminth (nematode) that is prevalent in cats and dogs. In 2001, researchers at the Belo Horizonte Hospital in Brazil, reported a case of a 39 year-old male patient with arthritis in his ankle joints who had eosinophilia and a positive ELISA test for Toxocara canis (15).

**Strongyloides**
Strongyloides is a human parasitic roundworm that causes strongyloidiasis. In the United States, the common name is threadworm. In Australia and the UK, strongyloides is called Enterobius and the common name is pinworm.

In 1990, Olivier Patey, a faculty member at the Université Paris-Est Créteil Val-de-Marne,
led a study that described reactive arthritis in a 32 year-old Human T-lymphotropic virus (HTLV-1) positive patient with a heavy infestation of Strongyloides stercoralis (16). Note: HTLV-1 are human retroviruses that are known to cause a type of cancer called adult T-cell leukemia/lymphoma (17).

In 1996, researchers at Archet Hospital in Nice, France, described reactive arthritis caused by Strongyloides (18).

In 2003, researchers at Amsterdam’s Jan van Berrmen Institute described polyarthritis in ten patients with intestinal Strongyloides stercoralis (19).

**Parasites Increase Purine and Uric Acid Levels**

Patients with gout are told to avoid foods that are high in organic compounds called purines, but what if elevated uric acid, or purine levels are due to parasite infections?

Uric acid crystals that form in joints of those with gout represent a breakdown product of purines. Examples of foods with medium to high purine content include organ and other meats, scallops, sardines, herring, anchovies, and mackerel, tuna, carp, codfish, halibut, perch, salmon, snapper, and trout beer, asparagus, cauliflower, beans, peas, bran, wheat germ, oatmeal and whole grains.

**Soft-Bodied Invertebrates Secrete Ammonia**

Zoology text books explain that soft-bodied invertebrates (e.g. worms) diffuse ammonia across their whole body surface as nitrogenous waste. Ammonia is toxic to the human system, and enzymes convert it to urea or uric acid by addition of carbon.
dioxide molecules (not considered a deamination process) in the urea cycle, which takes place in the liver. Urea and uric acid can safely diffuse into the blood (20).

**Toxoplasma gondii Raises Purine Levels**
In 2014, researchers at Brazil’s Federal University of Santa Maria found elevated purine and uric acid levels in the brain of mice experimentally infected with Toxoplasma gondii (21).

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**Swiss Study Shows High Infection Rates for S. stercoralis**

In 2013, epidemiologists at the Swiss Tropical and Public Health Institute in Basel, Switzerland reviewed 354 studies from 78 countries and found high rates of S. stercoralis infection (22). In Africa, the range of infection rates in the communities varies from 0.1% in the Central African Republic to up to 91.8% in Gabon. In South and Central America, Haiti reports a prevalence of 1.0%, while in Peru the infection rate is as high as 75.3%. Interestingly, in South-East Asia, another highly endemic part of the world, several countries report infection rates within a comparably small range. In Cambodia, the infection rate is 17.5%, Thailand 23.7% and Lao PDR 26.2%. Only Vietnam, with a prevalence of 0.02% based on only one study—falls out of this picture.

In developed countries, high rates of infection in endemic parts of the world have implications for immigrants (23, 24), tourists (25) and military (26) returning from deployment in endemic areas.

The authors concluded that S. stercoralis is of high importance in global helminth control and should not be neglected.

Note: Helminth worms are microscopic and can be passed from one person to another indirectly through contact with contaminated clothing, bedding or food (27).
Taenia and Strongyloides Are Ancient Helminths

Helminths (worms) implicated in this chapter and the previous chapter are ancient. The following worms were identified by the early Greeks and Romans:

Tapeworm (Taenia)
Tapeworms were described by the early Greeks including Hippocrates (460-375 B.C.), Aristotle (384 - c. 322 B.C.) and Threophrastus (c. 372 - 286 B.C.). The Greeks called tapeworms “Helmins Plateia meaning “flatworm” or Tainia, meaning band or ribbon worm. Romans like Celsus (c. 20 A.D.), Pliny the Elder (23-79 A.D.) and Galen (129-c. 200 A.D.), recognized tapeworms and named them Lumbricus latus meaning broad or wide (28).

Roundworm (Strongyloides or Enterobius vermicularis)
The Greek physician Galen, who worked in Rome, described the symptoms of Strongyloides or Enterobius vermicularis in his writings that were translated and edited by German physician and medical historian Karl Gottlob Kühn (29).

Lithium in Treatment of Cluster Headaches
In 2009, M.B. Abdel-Maksoud, led a team at England’s Queen Elizabeth Psychiatric Hospital in Birmingham that reviewed the scientific literature for Lithium treatment in cluster headaches (CH). The authors concluded that lithium can be effective in two types of cluster headaches (chronic and the episodic forms). Their report, published in The European Journal of Psychiatry (30), contains a summary of 17 studies (31-47).

Lithium in Treatment of Seborrheic Dermatitis
In 1992, researchers at the University Hospital in Ghent, Belgium performed a double-blind, placebo-controlled trial of lithium
succinate ointment (LSO) in patients with seborrhoeic dermatitis. The authors reported a significantly higher number of patients treated with LSO showed remission or marked improvement compared with placebo (48).

**Neem Iced-Tea as a Parasite Prevention Remedy**

In Chapter 3, Neem was named as a nematicide containing a limonoid phytochemical called azadirachtin (49). Neem powder, brewed with black tea and sweetened with stevia, can provide a pleasant-tasting beverage that has antiparasite properties.

**Ingredients and Equipment**

A 12-cup drip coffee maker is an efficient appliance for brewing tea with loose Neem powder. A slightly bitter-taste in the tea can be successfully masked with green stevia. Use 3 black tea bags with 1/2 teaspoon of Neem powder in a filter paper liner to make a full pot. Add spring water to the coffee maker reservoir and brew your tea. Refrigerate in quart, or half-gallon-sized Mason jars. Sources:

- **Neem Powder** ([www.frontiercoop.com](http://www.frontiercoop.com))
  Frontier Natural Products Co-op sells bulk Neem Leaf Powder in a 1 lb. package (*Azadirachta indica*, $16).

- **Black Tea Bags** (Whole Foods)
  Whole Foods’ 365 brand organic black tea, 80 bags, $4

- **Green Stevia Powder** ([www.jeansgreens.com](http://www.jeansgreens.com))
  Jean’s Greens sells unprocessed green stevia powder (avoid white stevia powder that contains maltodextrin made from GMO corn).

**Serving Unsweetened Iced Tea**

Avoid using sugar or honey in your iced tea because parasites use glucose for food. Stevia is made from the leaves of a plant and can be bitter at high concentrations. For best results, sprinkle stevia into your tea using a salt shaker.
References


