

## Herxheimer Reaction

### **History of the Herxheimer reaction**

The treatment of many bacterial infections provokes a Herxheimer reaction. Herxing was originally observed in patient/clients with acute infections such as syphilis who received mercury treatment (a weak antibiotic). The immune system response to acute infection is sometimes referred to as the immune cascade. For example, in the infamous anthrax attacks people died because by the time they got to hospital the anthrax organisms had multiplied to the point where killing them also killed the patient/client.

It has been reported that patient/clients with chronic conditions or infections such as rheumatoid arthritis, Lyme, tuberculosis and louse-borne relapsing fever have also experienced herxing when treated with the appropriate antibiotics.

Jarisch-Herxheimer reaction is seen in many diseases:

Tuberculosis - **Jarisch-Herxheimer reaction; paradoxical worsening of tuberculosis chorioretinitis following initiation of antituberculous therapy.** PMID: 18600241

Borreliosis - **Variable major lipoprotein is a principal TNF-inducing factor of louse-borne relapsing fever.** PMID: 9846580

Tick-borne relapsing fever - **Relapsing fever in Gondar, Ethiopia.** PMID: 12380884

Multiple sclerosis - **Is Multiple sclerosis caused by a silent infection with malarial parasites? A historico-epidemiological approach: part II** PMID: 11516219

Whipple disease - **[Whipple disease associated with pulmonary arterial hypertension. Jarisch-Herxheimer reaction after antibiotic therapy]** PMID: 11721494

Syphilitic alopecia - **Syphilitic alopecia and Jarisch-Herxheimer reaction.** PMID: 606336

Chronically ill patient/clients are carrying a heavy load of intracellular pathogens by the time they become symptomatic because the Th1/Th17 infection has been growing, unhindered, for most of a patient/client's life. The immune system response when these intracellular bacteria are recognized and killed causes a similar immune cascade.

### **Immunopathology**

Immunopathology is a term, similar to Herxheimer, used by the scientific community. It describes all the collateral pathological effects on the body (e.g., hormonal, endocrine, cell death and blood count changes) caused by the immune system during normal function.

### **Intracellular bacteria**

It's normal for the body to generate an immune response when challenged by foreign matter such as microbes and allergens. Research has led to the hypothesis that this reaction in chronically ill patient/clients is triggered by cell wall deficient, polymorphic L-form microbes. It is believed these intracellular bacteria have learned to live inside the macrophages (phagocytes) of the immune system. Apparently, they fail to be destroyed by the phagocytes which are supposed to kill them because they have adapted mechanisms to prevent being identified by the immune system.

When the intraphagocytic bacteria are killed by the immune system, the cells they lived in also die (apoptosis). As the immune system tries to clear up this cellular debris, it releases a host of inflammatory molecules which, along with the toxins released by the bacteria as they die, cause a rise in symptoms in the area in which the bacteria are being killed.

## Identifying the bacteria

It's difficult (and unnecessary) to determine which of the many species of intracellular mycoplasma might be responsible for individual Th1/Th17 inflammatory diseases. These bacteria are difficult to see even with an electron microscope, very slow growing and tedious to culture. This is only done in a research lab and makes it impractical to cross-match species to find the appropriate antibiotics.

Thus, the elicitation of a Herxheimer reaction is a key component of IT to determine, by therapeutic probe, which antibiotics are effective. Renowned scientist, Dr. Friedrich Flachsbarth, MD, Göttingen, Germany, states that "Jarisch-Herxheimer is in fact the maximum of evidence possible in search of occult microbes."

## Symptoms of Herxheimer reactions

The most common symptoms reported include increased fatigue, joint or muscle pain, skin rashes, photosensitivity, irritability, paresthesia, dizziness, sleep disturbances, asthenia, muscle cramps, night sweats, hypertension, hypotension, headaches (especially migraines) and swollen glands. Also reported are heavy perspiration, metallic taste in mouth, chills, nausea, bloating, constipation or diarrhea, low grade fever, heart palpitations, tachycardia, facial palsy, tinnitus, mental confusion, uncoordinated movement, pruritus, bone pain, flu-like syndrome, conjunctivitis and throat swelling.

## Allergy versus Herxheimer reaction

A Herxheimer reaction is sometimes mistaken for a "hypersensitivity reaction" or even the cause of a related, (probably preexisting) disease such as lupus. Pruritus, hives and rash induced by herxing can be misdiagnosed as an allergic (T-helper2) reaction to the antibiotic. IT patient/clients, however, have reported safely taking antibiotics, although eliciting herxing, despite a history of 'allergy'.

Herx symptoms might linger for weeks, rather than the hours that would be expected from an allergic reaction. Although rarely necessary, laboratory tests can help differentiate between a Herxheimer reaction to microbial toxins and an allergic reaction to medication. White blood cells and 1,25-D will be elevated in a Herxheimer reaction. A marked increase in eosinophils (about 30%), or the presence of specific antibodies, is an indication of an allergic reaction.

## **Managing expected Herxheimer reactions**

Herxheimer reactions are an unavoidable part of the long journey to recovery. Although herxing is often unpredictable, it can be managed with the correct use of Benicar, the judicious choice of antibiotic combinations, careful antibiotic dosing schedules, adjustment of antibiotic dosing and palliative medications. IT does not require eliciting a more severe herxing than a patient/client can tolerate in order to eliminate the bacteria.

As the number of dying bacteria is reduced with subsequent antibiotic doses, effective treatment requires increasing doses and changing antibiotic combinations to continue eliciting a Herxheimer response. The occurrence of herxing is seen as evidence of continuing elimination of these very persistent bacteria. Details of Herxheimer symptom management are in our Library of Information.

IT patient/clients have made a determined choice to recover from, not just manage, their chronic illness. They understand and welcome Herxheimer reactions even when they must endure temporary increased suffering. They accept it as the 'price' they must pay in order to get well and even find it gratifying to experience tangible evidence of bacterial elimination. The gradual resolution of inflammatory symptoms as the treatment progresses is ample incentive to persist with this sometimes uncomfortable treatment.



Many IT patient/clients say their doctors were initially unaware of the Herxheimer phenomenon. An increased awareness of the Herxheimer reaction by those who order IT will be of benefit to patient/clients. Naturally harvested and collected antibiotics then might be seen as the ally they are proving to be in fighting chronic inflammatory diseases.

### How to reduce disability caused by Herxheimer reactions

Patient/clients can help lessen the disability experienced during Inflammation Therapy if they:

- Minimize exposure to other sources of toxins, including airborne chemicals and pollutants, food containing additives or other chemicals, unnecessary medications, poor water etc.
- Maximize the quality of food, water and air.
- Avoid unnecessary stress.
- Rest during the day, especially if experiencing sleep problems at night.
- Keep a perspective that symptoms, though unpleasant, are rarely life threatening and will diminish with time.
- Remember that intracellular bacteria can influence thinking (psychological symptoms) and may encourage counterproductive activities.

### Therapeutic efficacy

The patient/client is expected to experience episodic Herxheimer reactions as long as antibiotic therapy is needed. The gradual resolution of symptoms has been noted to require months or years depending on the extent of Th1/Th17 inflammation. The Herxheimer reaction is a key component in evaluating the efficacy of each IT antibiotic, antibiotic combination or dosing schedule. The lack of a Herxheimer reaction when disease symptoms are still present signals a need for a change in dosing schedule or antibiotic.

Remission is determined by absence of symptoms, both objective and subjective.

"It is my observation and experience that the Herx is one of the most difficult things for people to understand. When symptoms "act up" they get the jitters understandably, due to the years of disease and being so symptomatic. Many feel they are getting worse, but when the symptoms do occur as they do with Herx, I have witnessed that symptoms begin to fade and then never re-appear.

"Herx is an ongoing process of healing and very much a part of IT. It takes time - patience - and great deal of perseverance - to ride this out. For many who have been on various therapies for long periods of time - the valley and mountain feelings have been plentiful. But the end result is worth the journey."