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Research Article

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Can Leptospirosis Be Treated Without Any Kind of Medication?

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Abstract

Introduction: *Leptospirosis is an acute infectious disease caused by pathogenic Leptospira. Spread in a variety of ways, though the digestive tract infection is the main route of infection. As the disease pathogen final position in the kidney, the urine has an important role in the proliferation of the disease spreading [1].*

Purpose: *The purpose of this study was to show if leptospirosis can be treated without any kind of medication.*

The methodology used was *the presentation of one case report of a woman presenting three days of generalized pain all over her body, especially in her muscles, mainly the calves of her legs, fever, headache and trembling. A blood exam was asked, as well as serology and acupuncture to relieve her symptoms.*

Findings: *she recovered very well after five sessions of Acupuncture once a day. A month later, she came back with the results of her serology: it was positive leptospirosis.*

Conclusion: *In this case, leptospirosis was cured without the use any kind of medication, being acupuncture a good therapeutic option, reducing the necessity of the patient's admittance into a hospital, minimizing the costs of the treatmentand restoring the patient to a normal life very quickly.*

Keywords: Leptospirosis, Antibiotic, Traditional Chinese Medicine, Acupuncture, Energy, Diet, Chinese Herbal, Hippocrates, Arndt Shultz's Law.

Introduction

Leptospirosis, caused by pathogenic species of Leptospira, is recognized as an emerging zoonotic disease of global importance (Bharti et al., 2003). Humans are infected through contact with animal reservoirs or contaminated environment (i.e., soil, sewage, or water). It is estimated that there are approximately 1.03 million global leptospirosis cases each year, resulting in 58,900 deaths [2].

Leptospirosis is transmitted when infected animal urine or other excretions come into contact with skin abrasions. Reliable figures on morbidity and mortality related to leptospirosis are generally lacking and the disease is often overlooked or underreported. The International Leptospirosis Society (ILS) had its first meeting in France in 1996 and attempts are currently being made to obtain epidemiological data. Cases occur throughout Europe, especially in rural areas where close contact with rodents is possible. Incubation period is 2–17 days. A flu-like illness with headache, fever, myalgia and arthralgia presents. Occasionally a more severe form of the disease (Weil's disease) occurs, presenting with jaundice, renal failure, and disseminated intravascular coagulation. Weil's disease has a fatality rate of 10–20%. Farmers, veterinary surgeons, sewerage workers, fish farmers and those bathing or participating in water sports in contaminated water are particularly at risk. The diagnosis of Leptospirosis can be cultured from blood, cerebrospinal fluid or urine [3]. Leptospirosis has a biphasic disease course. The first phase lasts up to 7 days and presents with unspecific symptoms such as fever, headache, and myalgia. The second phase can be categorized into anicteric and icteric forms. Most patients undergo the milder anicteric form. Rarely, leptospirosis presents with a severe icteric form with multiple organ involvement called Weil's disease. Weil's disease can lead to acute kidney failure, acute liver failure, rhabdomyolysis, and thrombocytopenia with possible hemorrhagic diathesis. Its mortality rate ranges from 5% to 15% without treatment. Transaminase levels are moderately elevated in the 100s IU/L, with a mild increase of alkaline phosphatase. An aspartate aminotransferase–alanine aminotransferase ratio of >3 may indicate a poorer prognosis. Serum bilirubin may rise as high as 30 to 40 mg/dL. Jaundice as a result of septic cholestasis typically appears during day 5 to 9 of the disease course. Liver function usually returns to normal without complications, as observed in this patient [4]. Treatment of leptospirosis with antibiotics remains controversial [4].

Purpose

The purpose of this study was to show if leptospirosis can be treated without any kind of medication.

Methods

A case report was done about a 25 year-old white woman presenting the following symptoms: three days of generalized pain all over her body, especially in her muscles, mainly the calves of her legs, fever, headache and little trembling. Physical examination showed arterial pressure to be 120x80mm Hg, temperature 106F, non-jaundice; light pain when touching muscles, especially calves. Being a veterinarian, she was responsible for a farm. It seemed that she was contaminated by an infectious disease, which could be Dengue Fever or Leptospirosis. As the patient had many symptoms of pain throughout her body, it was suggested that she did an acupuncture session and was observed until the next day to avoid hospitalization. Acupuncture is the method of treatment based on influencing the body by inserting needles in the specific points of human body, called acupoints [5]. The patient agreed and the acupuncture points used (LI4; LI11; GB20; LR3; BL40; BL57; BL60; GV20) and it was treated according to the affected energy meridians.

A 25x40 stainless steel acupuncture needle was used and the patient was left in the room with the needles around fifteen to twenty minutes in each session. Auricular acupuncture was associated with small pieces of adhesive plaster glued with two mustard seeds to some points of the patient's ear. The points used were: Shen-Men; Occiput, Large Intestine, Liver, Lung and Bladder. The patient was also instructed to avoid ingesting frozen liquids, raw foods and dairy products, as they could increase the pain and cause a possible fever, according to Traditional Chinese Medicine. A blood and serology exam was asked afterwards, and it was verified there was no need for hospitalization after the first acupuncture session.

Results

The patient recovered very well after five acupuncture sessions once a day. A month later, she came back with the results of her serology. It was positive for leptospirosis IgM and negative IgG.

Discussion

Leptospirosis is considered to be an emerging, re-emerging and neglected disease of global significance. It is a notifiable disease in Brazil; from 2007-2011, there were a total of 19,442 confirmed cases and 2,371 deaths. Due to inherent difficulties in the diagnosis of leptospirosis, these numbers are considered to be underestimates. Human patients suffering from leptospirosis present with a diverse array of clinical manifestations, including the more severe and often fatal pulmonary form of the disease [6].

Cochrane review of 7 randomized clinical trials was inconclusive on the role of antibiotics (penicillin) in leptospirosis, regardless of severity. Nearly 90% of cases are considered mild, and oral doxycycline or amoxicillin may be used. For severe cases, parenteral high-dose penicillin G or ceftriaxone is recommended [4].

Phases of the disease

Before a disease is diagnosed at the laboratory, radiological level or by complementary tests, there has already been an alteration in energy level, where the patients have symptoms but the tests are still normal (Table 1). There are various phases where disease progresses in a healthy body. During phases 1 to 3, only a slowing of the organ functions occurs because of energy imbalances, and the patient has and complains of symptoms, but the results of laboratory exams are normal (Table 1). At phase 4 the laboratory exams show some alterations, and the disease is still curable, and at phase 5, the exams are very altered, and the cellular damage is irreversible and the disease incurable (Table 1).

Table1: PROGRESSION OF HEALTH TO DISEASE

	Organ	Exams	Energy Reserve	Symptom
Phase 1	Slowing Down of organ functions	Normal	Energy reserves – normal	Without clinical symptoms
Phase 2	Slowing Down of organ functions	Normal	Consumption of internal energy reserves	With symptoms in other organ
Phase 3	Slowing Down of organ functions	Normal	Consumption of external energy reserves	With symptom in same organ
Phase 4	Reversible Cellular Lesion	Little alteration	Consumption of blood reserves	Curable disease
Phase 5	Irreversible Cellular Lesion	Excessive alteration	Metabolic exhaustion	Incurable disease

Traditional Chinese Medicine (TCM)

TCM treatments exist for five other known spirochetal diseases: syphilis, yaws, relapsing fever, rat-bite-fever and leptospirosis. Chinese medical scientists have sought to integrate TCM with modern western medicine by comparing the pharmacological effects of the TCM remedies with the physiological actions of western medicine. Based on western medicine's understanding of the etiology and pathology of these diseases, certain modern Chinese medicine herbal remedies, which have anti-spirochetal and anti-inflammatory effects, have been studied to treat these diseases [7].

Leptospirosis is transmitted through contaminated water in the rice paddies in China. In poor rural areas, barefoot farmers work in the rice fields and epidemics of this spirochete disease affected millions of farmers in China. Smilax Glabrae Rhizoma has been studied as a preventive treatment for leptospirosis. Out of the 2,000 people tested, the incidence rate of a pre-treated group compared with a control group was 1: 5,58 – a statistically significant result, demonstrating that taking SG (Smilax Glabrae Rhizoma) can successfully prevent leptospirosis [7].

In recent years, the active ingredients listed below have been identified, They were tested and found to kill the spirochetes in leptospirosis, and have been used clinically to treat leptospirosis in China: Allicin, an active ingredient of garlic; Decanoylacetaldehyde, an active ingredient of *Houttuyniae Herba* (HH);Coptin, an active ingredient of *Coptischinensis Radix,* Smilax glabrae Rhizoma, and *Scutellariae Radix*, etc [7].

In China, the earliest leptospirosis case was recorded in 1920s. So far, more than 2.5 million cases and over 20,000 deaths have been reported. In the past 60 years, 10 outbreaks of leptospirosis with incidence of more than 10 cases per 100,000 have occurred in China [2]. In 2015, the prestigious Nobel Prize for Medicine was

awarded to 3 researchers credited for discovering natural chemicals in herbal medicine that were extremely effective in treating parasitic diseases [8]. Herbal treatments are not only to be found superior to any pharmaceutical treatment of parasitic disease, but are also shown to be effective when integrated into standard pharmaceutical treatment [8].

Acupuncture

Acupuncture is a form of treatment that involves inserting very thin needles through a person's skin at specific points on the body, to various depths. Research suggests that it can help relieve pain, and it is used for a wide range of other complaints. Some people claim it works by balancing vital energy, while others believe it has a neurological effect [10].

In Brazil, acupuncture has been considered a medical specialty by the Federal Council of Medicine since 1995.

Arndt Schultz's Law

Over a century ago, Schultz's experiments (1888) showed that many chemical agents had the effect of stimulating the growth and respiration of yeast. The phenomenon became known as the Arndt-Schultz's Law and was widely referred to in the pharmacological literature for over 30 years and became one of the scientific principles [10].

This law was proposed by two professors, Professor Arndt and Professor Schultz, and provides parallel evidence (Figure 1) about the effectiveness of the small dilutions that are employed in homoeopathic treatment [11]. High concentrations kill; medium concentrations suppress or inhibit; and low, or minute concentrations stimulate [10]. In other words, the effect of the drug bears an inverse relation to its concentration. This explains the biphasic effect of some medications, which stimulate in a certain amount, and in a higher amount decrease function and in a higher amount still destroy function [11].

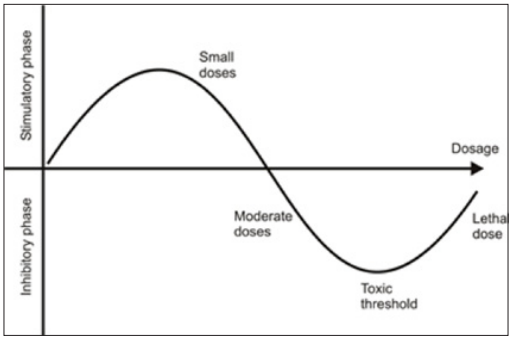

Figure 1 [10] - High concentrations kill; medium concentrations suppress or inhibit; and low, or minute concentrations stimulate [10].

The Law of Least Action, formulated by Maupertius, the French mathematician, states: "The quantity of action necessary to affect any change in nature is the least possible; the decisive amount is always a minimum, an infinitesimal." Health is a theme of ideal equilibrium, perfect balance, trivial circumstances may persuade it, and so may it be balanced by the least possible medication [10]. The second Law is the most controversial: use the infinitesimal dose, a dose so small that no molecules are left in the substance resulting in a gentle speedy, cure, with no side effects, allergic reactions or toxic after effects [10].

Arndt-Schultz says that, "Minimal doses of a drug stimulate, medium doses inhibit or suppress and large doses destroy cellular activity." Pasteur should have known this when he introduced his rabies vaccination, killing thousands of innocent people before he finally reduced the doses. This was 1888 and unfortunately, he did not learn from the genius of Hahnemann who already 100 years before Pasteur and Koch, cured epidemics of scarlatina, typhoid, cholera, syphilis, gonorrhea and TB. That success alone has given Hahnemann his well-deserved place in history [10].

However, the potency of homeopathic medicines is believed to increase with their dilution over many orders of magnitude, rather than restricted to a narrow range of concentrations like hormesis [10].

Hippocrates

Hippocrates of Kos (460-377 Before Common Era, BCE) is universally recognized as the father of modern medicine, which is based on observation of clinical signs and rational conclusions. His contribution in clinical medicine is immense, for he saw the physician as the servant and facilitator of Nature [12]. All medical treatment was aimed at enabling the natural resistance of the organism to prevail and overcome the disease, to bring about recovery [13]. Hippocrates collected data and conducted experiments to show that disease was a natural process; that the signs and symptoms of a disease were caused by the natural reactions of the body to the disease process; and that the chief role of the physician was to aid the natural resistance of the body to overcome the metabolic imbalance and restore health and harmony to the organism. The physician had to reinstate the healthy balance of these humors by facilitating the healing work of 'benevolent Nature' [14]. Hippocrates conceived that the human body functioned as one unified organism, or *physis*, and must be treated, in health and disease, as one coherent, integrated whole [13].

Hippocrates placed great emphasis on strengthening and building up the body's inherent resistance to disease [13]. Hippocrates was a great believer in dietary measures in the treatment of disease. He prescribed a very slender, light diet during the crisis stage of an acute illness, and a liquid diet during the treatment of fevers and wounds [13].

As a holistic healing system, Hippocratic medicine treated the patient, and not just the disease [13].

Conclusion

In this case, we have demonstrated that leptospirosis can be treated without the use of any type of medication. Acupuncture seemed to be a good therapeutic option, reducing the necessity of the patient's admittance into a hospital and dismissing the use of any antibiotic or anti-inflammatory drugs, which minimized the costs of the treatment and restored the patient to a normal life very quickly.

In this specific case, we did not yet know that the patient had leptospirosis, where the definitive diagnosis was made only after one month. The effort to avoid using medications traditionally indicated in this case, were due to Arndt Schultz's law, avoiding in this way to further weaken the patient's energy, which could contribute to aggravate the possible infectious process installed. The treatment was only to rebalance the energies, corroborating with Hippocrates' theory that "natural forces within us are the true healers of the disease."

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