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European Journal of Experimental Biology, 2012, 2 (5):1957-1961



Evaluation of clinical remission and serum globulin level in clinical and subclinical mastitis of Holstein cows before and after using of homeopathic medicine *Phytolacca decandra*

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ABSTRACT

Mastitis is the inflammation of mammary gland that some changes occur in appearance and structure of milk. Homeopathy is a form of alternative medicine originated by Samuel Hahnemann (1755–1843), based on the hypothesis that a substance that causes the symptoms of a disease in healthy people will cure that disease in sick people. The aim of present study was to evaluate of clinical remission and serum globulin level in clinical and subclinical mastitis of Holstein cows before and after using of homeopathic medicine *Phytolacca decandra*. In this study, cows with mastitis were selected from station No. 2 Moghan agro-industrial complex. All of the cows were Holstein and divided into the 2 groups including cows with clinical mastitis and cows with subclinical mastitis based on examination. Milk and blood samples were taken before and after treatment with *Phytolacca decandra*. The results of this study show that Homeopathic *Phytolacca decandra* can decrease the inflammation in cows with clinical and subclinical mastitis.

Keywords: mastitis, globulin, milk, blood, homeopathy, *Phytolacca decandra*, cow.

INTRODUCTION

Mastitis is the inflammation of mammary gland that some changes occur in appearance and structure of milk [3]. The inflammation of mammary gland is resulted of various microorganisms, although maybe no microorganisms are isolated in laboratory [28]. Mastitis is the most important disease of dairy cattle which imposes significant economic losses and allocates considerable treatment costs to its own. The common form of mastitis are subclinical cases which cause to gradual and significant decrease of milk production in cattle pens and impose much economic losses to cattlemen and cow-keeping industry [9,19,25]. Staphylococcus aureus is one the most important factors creating subclinical mastitis in dairy cattle's breasts all over the world [17,24,31] as well as one of the important pathogens in human being [11].

Homeopathy is a form of alternative medicine originated by Samuel Hahnemann (1755–1843), based on the hypothesis that a substance that causes the symptoms of a disease in healthy people will cure that disease in sick people [15]. This hypothesis is known as "the law of similars" or "like cures like". Scientific research has found

1957

homeopathic remedies ineffective and their postulated mechanisms of action implausible [13,32,34]. Conventional medicine generally considers homeopathy to be quackery [29,30,35].

Homeopathic remedies are prepared by serial dilution in alcohol or distilled water, followed by forceful striking on an elastic body, called "succussion". Each dilution followed by succussion is assumed to increase the remedy's potency. Homeopaths call this process "potentization". Dilution usually continues well past the point where none of the original substance remains [10]. Apart from the symptoms, homeopaths consider the patient's physical and psychological state and life history [15], consult homeopathic reference books known as "repertories", and select a remedy based on the "totality of symptoms" as well as traits of the patient.

The low concentrations of homeopathic remedies, often lacking even a single molecule of the diluted substance [12], lead to an objection that has dogged homeopathy since the 19th century: how, then, can the substance have any effect? Modern advocates of homeopathy have suggested that "water has a memory" that during mixing and succussion, the substance leaves an enduring effect on the water, perhaps a "vibration", and this produces an effect on the patient. However, nothing like water memory has ever been found in chemistry or physics [26,37]. Conventional medicine has found that higher doses usually cause stronger effects, whereas homeopathy claims the opposite.

Homeopathic remedies have been the subject of numerous clinical trials, which test the possibility that they may be effective through some mechanism unknown to conventional science. These studies have generally found that homeopathic remedies perform no better than placebos [1,20,22,23,32], although there have been a few positive results [5,8,27]. Because of the extremely high dilutions, most homeopathic remedies are, at least, harmless. Patients who favor homeopathic cures over conventional medicine do, however, incur some risk of delaying diagnosis and effective treatment [2,14,16]. The regulation and prevalence of homeopathy vary greatly from country to country [21]. The aim of present study was to evaluate of clinical remission and serum globulin level in clinical and subclinical mastitis of Holstein cows before and after using of homeopathic medicine *Phytolacca decandra*.

MATERIALS AND METHODS

In this study, cows with mastitis were selected from station No. 2 Moghan agro-industrial complex. All of the cows were Holstein and were milking 3 times a day. Prior the study, milk samples were check from existence of clot in it and udders were evaluated from edematous, pain in udder and so on and divided into the 2 groups including cows with clinical mastitis and cows with subclinical mastitis. Cows with subclinical mastitis were graded into the 3 grade by using California Mastitis Test. Then milk samples and 10 CC blood samples were obtained from vein tail for immunological tests. For this mean, after cleaning and disinfecting the teats, milk samples were obtained and were tested by Streep Cup method. Then, *Phytolacca decandra* tablets were administrated at the dose of 30^C for 4 continuous days. Administration paradigm was 1 tablet each 6 hours in first day, 1 tablet each 8 hours on day 2, 1 tablet each 12 hours on day 3 and 1 tablet each 24 hours on day 4 as orally. 24 hours after above mentioned route, milk and blood samples were taken and assayed again. Also, in control group, intra-mammary administration of penicillin was followed by intramuscular route. Blood samples were centrifuged at 2500 RPM and were frozen at -20°C. Samples were transferred to the laboratory for measurement of globulin.

Data were analyzed by SPSS software and significance between groups was compared by ANOVA and Mann-Whitney tests.

RESULTS

Clinically, there was no significant difference among groups from aspect of clot in milk, pain in udders and changes in udder appearance after using of *Phytolacca decandra* at the dose of 30^C. Data obtained from measurement of serum globulin reveled that mean value of globulin in treatment and control groups was 3.51±0.54 and 2.84±0.89 respectively. Also, this value in cows who not received treatment was 2.74±0.49. So, based on F=7.306 and p=0.000 with 99% confidential level, can state that, difference among groups was significant and this value was more in treatment group (P<0.001) **graphs 1 and 2.**

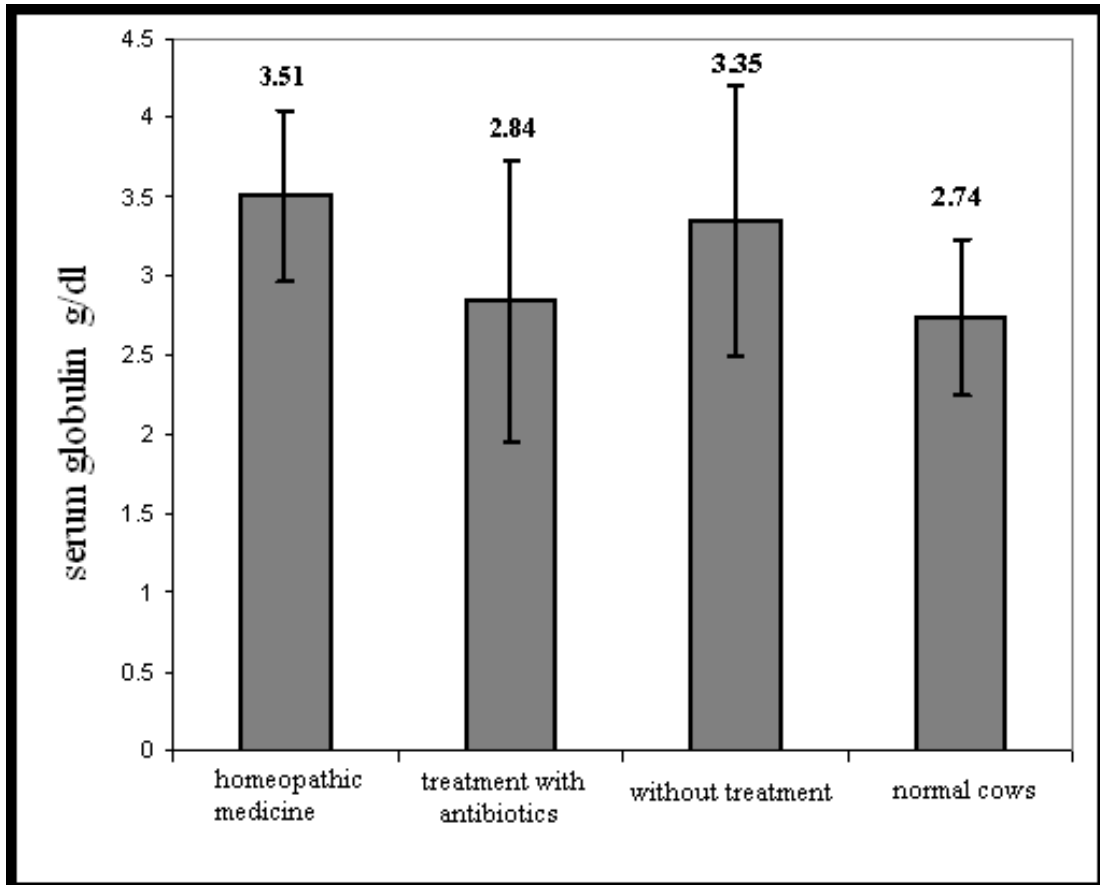


Figure 1: Mean value of globulin (g/dl) to distinguish different groups

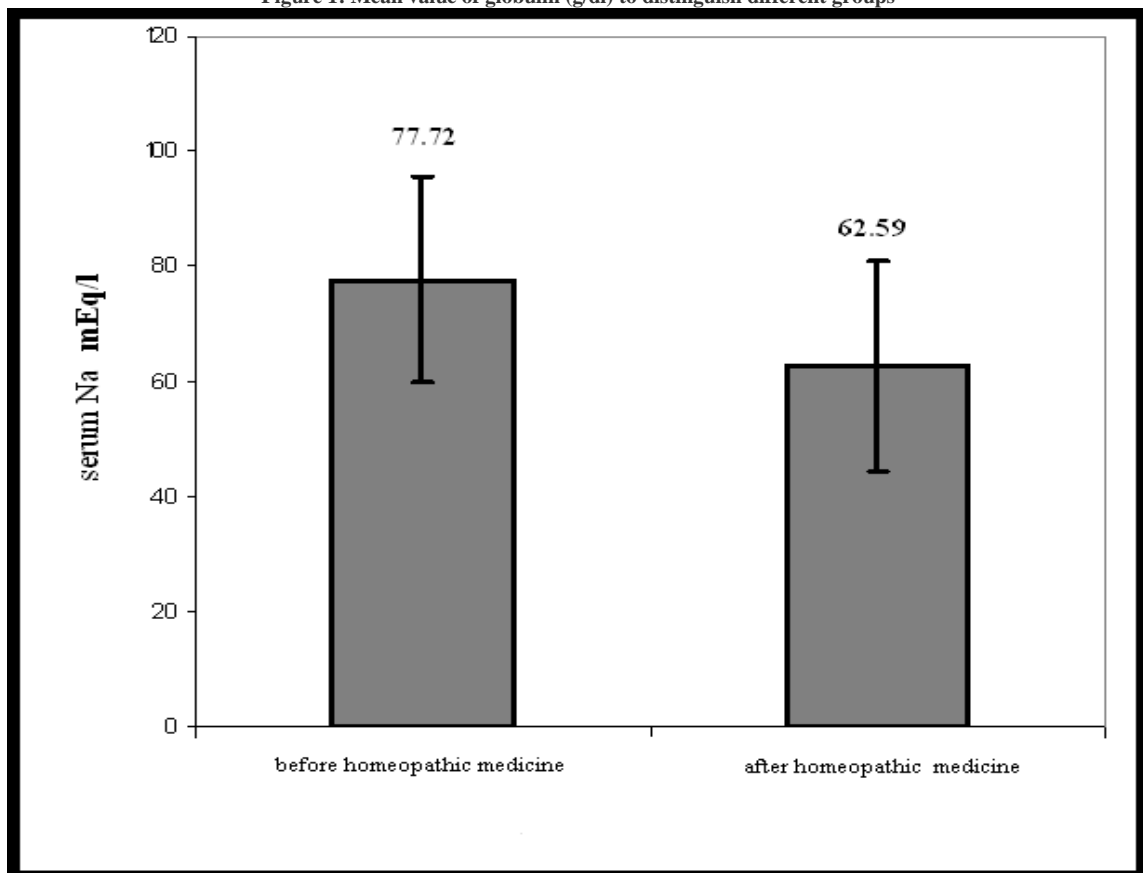


Figure 2: Mean value of Na (mEq/L) before and after homeopathic medicine

DISCUSSION AND CONCLUSION

Homeopathy is a vitalist philosophy that interprets diseases and sickness as caused by disturbances in a hypothetical vital force or life force. It sees these disturbances as manifesting themselves as unique symptoms. Homeopathy maintains that the vital force has the ability to react and adapt to internal and external causes, which homeopaths refer to as the "law of susceptibility" (as with the "law of similars" this is a term of art and not a natural law, and it lacks significant scientific acceptance).

The law of susceptibility implies that a negative state of mind can attract hypothetical disease entities called "miasms" to invade the body and produce symptoms of diseases [7]. However, Hahnemann rejected the notion of a disease as a separate thing or invading entity, and insisted it was always part of the "living whole" [15]. Hahnemann proposed homeopathy in reaction to the state of traditional Western medicine at that time, which often was brutal and more harmful than helpful. Hahnemann coined the expression "allopathic medicine", which was used to pejoratively refer to traditional Western medicine [38].

In 1828, Hahnemann introduced the concept of "miasms"; underlying causes for many known diseases [15]. A miasm is often defined by homeopaths as an imputed "peculiar morbid derangement of [the] vital force"[15]. Hahnemann associated each miasm with specific diseases, with each miasm seen as the root cause of several diseases. According to Hahnemann, initial exposure to miasms causes local symptoms, such as skin or venereal diseases, but if these symptoms are suppressed by medication, the cause goes deeper and begins to manifest itself as diseases of the internal organs [18]. Homeopathy maintains that treating diseases by directly opposing their symptoms, as is sometimes done in conventional medicine, is ineffective because all "disease can generally be traced to some latent, deep-seated, underlying chronic, or inherited tendency"[36]. The underlying imputed miasm still remains, and deep-seated ailments can be corrected only by removing the deeper disturbance of the vital force [6].

Hahnemann originally presented only three miasms, of which the most important was psora (Greek for "itch"), described as being related to any itching diseases of the skin, supposed to be derived from suppressed scabies, and claimed to be the foundation of many further disease conditions. Hahnemann believed psora to be the cause of such diseases as epilepsy, cancer, jaundice, deafness, and cataracts [15]. Since Hahnemann's time, other miasms have been proposed, some replacing one or more of psora's proposed functions, including tuberculosis and cancer miasms [18].

Hahnemann's miasm theory remains disputed and controversial within homeopathy even in modern times. In 1978, Anthony Campbell, then a consultant physician at the Royal London Homeopathic Hospital, criticised statements by George Vithoulkas claiming that syphilis, when treated with antibiotics, would develop into secondary and tertiary syphilis with involvement of the central nervous system. This conflicts with scientific studies, which indicated penicillin treatment produces a complete cure of syphilis in more than 90% of cases [4]. Campbell described this as "a thoroughly irresponsible statement that could mislead an unfortunate layman into refusing orthodox treatment". The theory of miasms has been criticized as an explanation developed by Hahnemann to preserve the system of homeopathy in the face of treatment failures, and for being inadequate to cover the many hundreds of sorts of diseases, as well as for failing to explain disease predispositions, as well as genetics, environmental factors, and the unique disease history of each patient [33].

The results of this study show that Homeopathic *Phytolacca decandra* can decrease the inflammation in cows with clinical and subclinical mastitis.

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