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Karanpreet Nahar
Research Officer
(Homoeopathy)/Scientist-1,
Dr DP Rastogi Central
Research Institute of
Homoeopathy, Noida,
Uttar Pradesh, India

Homoeopathy and immunomodulation: A narrative review article

Karanpreet Nahar

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Abstract

Homoeopathy is the second most popular system of medicine but the mechanism of action of the homoeopathic medicines is still unclear and debatable, thus posing a prodigious challenge to describe its scientificity. This article aims to make a comprehensive review of immunomodulatory effect of Homoeopathy and attempts to elucidate the course of this mechanism.

Keywords: homoeopathy, immunomodulation, epidemiologic

1. Introduction

Homoeopathy entails a vast potential to provide healthcare enriching the public health system and strengthening quality of life of patients, thus, contributing to the value of economic and social development; improving health and development of local communities and safeguarding cultural differences. Its basic instinct of a patient-centered approach renders holistic focus on public healthcare system in India. There have been major leaps in Homoeopathic research in last couple of decades whose effects can be palpated precisely in the form of international publications.

India is currently undergoing an epidemiologic, demographic and health transition, where communicable diseases still dominate and constitute major public health issues. India admist inadequate financial resources for its health sector is grappling with the consequences of existing communicable and non-communicable diseases while handling the steadfast increasing burden of emerging and re-emerging diseases (such as drug-resistant TB, malaria, SARS, avian flu and the current COVID-19 pandemic).

In the absence of effective broad-spectrum antivirals, vaccines and limited treatment options, alternative and complementary medicines are increasingly being assessed for the management of epidemic diseases.

2. Homoeopathic immunological evidence in infectious diseases

In low income countries like India, infectious diseases remain a major challenge, where Homeopathy can alleviate the crisis when used as complementary and/or as first line of treatment in the initial stages of infection. A few examples to substantiate Homoeopathic immunological evidence is stated here. *BioLi30x* and *Antimoniumcrudum* 30X have presented reduction in megakaryocytes, spleen changes due to immunomodulation, controlling the *Leishmania infantum* infection process through Th1 cytokine predominance [1, 2]. In Murine Cutaneous Leishmaniasis, it was seen that *Thymulin* 5cH is able to improve B1 cell activation, peritoneal T reg cells, *Leishmania* (L) amazonensis and phagocytosis efficiency in mice [3]. *Atropa Belladonna* 6C and 30C perform better than standard treatment against murine infection by *T. cruzi* [4]. It was also noted that Serial agitated Dilutions (SADs) of Homoeopathic medicines reduced overall mortality by 22% delaying death by 5 days in case of life threatening infectious disease of Tuleremia [5]. *Cina* θ , *Cina* 200 and *Cina* 1000 was found to reduce micro filarial densities in blood of dogs treated against Canine Dirofilariasis within 10 weeks with no apparent toxic effect [6]. *Typhoidinum* 200, *Hydrophobinum* 1000, *Tuberculinum* 1000, *Nuxvomica* 200 and *Malandrinum* 1000 have caused 100% inhibition of Chicken Embryo Virus (CEV) of fowls & Simliki Forest Virus (SFV) in mice [7]. *Phosphorus* 6cH and 200cH was found to exhibit modulator action on the activity of Encephalitozoon cuniculi-infected macrophages helping in the prognosis of immunosuppressed patients bearing this infection [8, 9].

Corresponding Author:
Karanpreet Nahar
Research Officer
(Homoeopathy)/Scientist-1,
Dr DP Rastogi Central
Research Institute of
Homoeopathy, Noida,
Uttar Pradesh, India

In Dengue Hemorrhagic fever, add on Homoeopathy could bring early improvement in platelet count and decrease in hospital stay by 2 days^[10]. Similarly, in Acute Encephalitis Syndrome/Japanese Encephalitis Homeopathy as an adjuvant to the Institutional Management protocol could decrease death rate by 15% in comparison to those who received only Institutional Management protocol^[11]. In both the studies, adverse effect was not observed. Keeping in view the clinical success in above mentioned severe viral diseases, Homoeopathy as an adjuvant to the usual care may be tried in COVID-19 patients.

3. Homoeopathic immunological evidence in Inflammatory disorders

The evidence that supports the traditional 'simile' rule of Homoeopathy in the light of immunology, according to which ultralow doses of compounds, that in high doses are pathogenic, may have paradoxically a protective or curative effect^[12, 13]. In support of the same, a few examples of Homoeopathic immunological evidence in reducing inflammation are stated here. *Thymulin* 5CH improves the granuloma inflammatory process and remission of infection by modulating local and systemic phagocyte differentiation including T and B Lymphocyte, CD25 and Treg cells^[14]. *Canova* appears to activate macrophages and to have effects on TNF- α which play an important role in inflammatory processes corroborating the laboratorial research and the clinical data^[15-17]. *Rhustox*30X significantly increases prostaglandin E2 (PGE2) release, COX-2 expression and decreases Nitric Oxide generation^[18, 19]. *Arsenicalbum* 30C helps in decreasing lipid peroxidation, protein carbonylation, DNA damage, ROS formation and Msn 2 and Yca-1 expression, thus, triggering ameliorative responses in *S. cerevisiae* exposed to arsenate^[20]. *Thuja* 1M, *Carcinosinum* 1M and *Ruta* 200C significantly enhances TLC, bone marrow cellularity, circulating antibody titre, plaque forming cells (PFC) & esterase positive cells^[21]. All concentrations of *Engystol* increases the percentage of interferon- γ producing lymphocytes, lymphokine (s) and decreases CD4+/CD8+ ratios significantly confirming that *Engystol* can modulate immunity upon antigenic challenge^[22-25]. Existing controlled clinical trials indicate that *Echinacea* can be efficacious immunomodulators^[26] and minimal antiviral effect of *Euphorbium compositum* SN against influenza A virus and HRV was also noted^[27]. *Calendula officinalis* has an immunomodulation effect against three different live viruses, namely, IB virus, ND virus and IBD virus in broiler chickens^[28]. The immunomodulatory function of Homoeopathic medicines is also proven by the decrease in CD11b and TER-119 markers^[29]. Flow cytometry and morphometry revealed significant changes in T and B cell balance after influenza antigen challenge in BALB/c mice, showing that homeopathic treatment induces subtle changes in acquired immune anti-viral response regulation^[30]. *Influenzinum* RC induced morphological alterations in Madin-Darby canine kidney (MDCK) cells indicating a significant increase in this cytokine^[31].

4. Homoeopathic immunological evidence in Cancer

The immunological changes in cellular lines and blood parameters has been rigorously explored in Homoeopathy establishing its protective role even in a life-threatening disease such as cancer^[32-36].

These results advocate that non-toxic therapies using Homoeopathy are a promising alternative approach, which may enhance the efficacy of conventional medicines by improving the immune response against tumor cells.

5. Conclusion

The Homoeopathic field is on its road to progression of taking Homoeopathy to newer heights and to bring its much-owed recognition which can be stressed upon by this review that tries to explain the modulation of immune function by the Homoeopathic medicines. Advancement in direction of this research, would carve the way ahead for Homoeopathy; and the homoeopathic research expertise field confirms that it is poised to lead the charge.

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