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Analogy between satisfying the morbid susceptibility and competitive enzyme inhibition

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Abstract

Homoeopathic cure is based on law of similars. The process of competitive enzyme inhibition through which diseases are treated in Modern medicine also applies the principle of similars. But the explanation of how the homoeopathic cure takes place is philosophical, whereas that of competitive inhibition is scientific. By drawing a parallel between these two processes, the purpose is to formulate a proposition whether the homoeopathic cure could possibly be due to the competitive inhibition between the disease and medicinal forces. It also shows that the application of law of similars is not limited to Homoeopathy and dynamic plane.

Keywords: susceptibility, enzyme, competitive inhibition, substrate, vacuum, constitution

1. Introduction

The basic principle of Homoeopathy, Similia Similibus Curentur is indisputable. But as its field is mainly limited to dynamics, its working as to how cure takes place in Homoeopathy can be explained only philosophically^[1]. Modern medicine which operates mostly on physical plane, uses this principle of Similars in competitive enzyme inhibition process to treat variety of diseases^[2, 3]. This paper aspires to draw a similarity between the two processes namely satisfying the morbid susceptibility (homoeopathic cure) and competitive enzyme inhibition, so as to give a scientific explanation to the modus operandi of cure.

1.1 Homoeopathic concept of disease and cure

Disease is the derangement of vital principle due to dynamic morbid agents, which is expressed externally through signs and symptoms. Dr. Hahnemann explains the modus operandi of cure in aphorism 29 of 6th edition of his Organon of medicine. It is a theory put forth for understanding how cure takes place. When medicine is administered to the patient on the basis of symptom similarity, the vital principle which was under the influence of natural disease force now reacts to the stronger, similar medicinal force. This makes the natural, weaker dynamic disease force ineffective. The disease symptoms no longer exist as the vital force is now under the influence of stronger, similar medicine. Once the action of this medicine is exhausted, the vital principle becomes free of this medicinal disease also.

In aphorism 31 of 6th edition of Organon of medicine, Dr. Hahnemann mentions that the natural disease forces cannot derange health unconditionally. Susceptibility is one of the conditions to make an individual sick. Different homoeopaths have explained susceptibility in terms which include affinity, attraction, desire, hunger, need, which exist and express themselves normally in every living being; but they may become morbid and perverted and cause disease, suffering and death^[4].

Dr. Herbert Roberts calls susceptibility as an expression of vacuum created due to the miasmatic influence in an individual^[5]. This susceptibility draws to itself the disease which is on the same plane of vibration and which tends to fill this vacuum (deficiency)^[6]. Cure is accomplished by satisfying the altered (morbid) susceptibility of the patient by filling the vacuum with the homoeopathic medicine^[7, 8].

1.2 Enzyme and enzyme reaction

In living organisms, thousands of chemical reactions are taking place at every moment. These chemical reactions release chemical energy necessary for the harmonious functioning of the organism and sustaining life. These chemical events, termed as metabolism, need enzymes which act as catalysts for almost all the metabolic processes that occur in a cell. The substance on which the enzyme acts is called as substrate.

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This substrate is then converted into product [9, 10]. The Enzymes are highly specific for their substrates [11, 12]. In most of the enzymes, there is a small cleft like portion where the substrate binds and catalysis occur. This site is called the active site which is mostly responsible for the substrate specificity of an enzyme. The substrates bind to the active site by weak non-covalent bonds which are usually reversible.

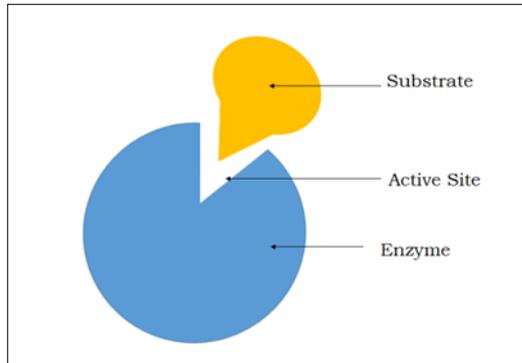


Fig 1: Shows Substrate, Active Site and Enzyme

1.3 Enzyme inhibition: Many drugs of Modern medicine used in treatment of various diseases like gout, cancer, hypertension, hypercholesterolemia, Parkinsonism act by inhibiting the enzymes [13, 14].

One such method is competitive inhibition. Here the inhibitor (drug) which has a close structural similarity to the substrate acts as a substrate analogue and binds at the active site of the enzyme. Since the active site is blocked, the enzyme is not available for the substrate to bind and form the product. The relative concentrations of substrate and inhibitor and also their respective affinities for the enzyme determine the degree of competitive inhibition [15, 16].

The process of competitive inhibition is also used to prevent browning of fruits and vegetables [17]. One such example is mushrooms where the inhibitors added to the produce keep it fresh for long time thus increasing the shelf life [18, 19, 20].

1.4 Analogy between satisfying the morbid susceptibility and Competitive enzyme inhibition

To draw a parallel between the above two processes, replacing the words enzyme with constitution of an individual; active site by morbid susceptibility/ vacuum (as susceptibility is a part of the constitution); substrate by natural disease force; product by disease symptoms and inhibitor by similar medicinal force (Homoeopathic medicine) is done.

Reconstructing the process of competitive inhibition with replaced words and showing similarity with homoeopathic cure:

The morbid susceptibility pulls towards itself the disease producing causes which is on the same plane of vibration. This is analogous with the substrate specificity of the Enzymes. The product thus produced is the disease symptoms which call for the similar remedy. The medicinal force (homoeopathic medicine) which has a close similarity to the disease force acts as a disease analogue and satisfies the morbid susceptibility. And when susceptibility is satisfied, there is a cessation of cause, and when cause ceases to flow into ultimates, not only do the ultimates cease but cause itself has already ceased [21]. The potency of the homoeopathic medicine, the nature of the disease and the

miasmatic influence on the constitution determine the degree of competitive inhibition.

2. Conclusion

There is certainly some similarity between the process of homoeopathic cure and competitive enzyme inhibition, though the former is on dynamic plane and the later on material plane. How homoeopathic cure takes place can possibly be explained on the lines of competitive inhibition. This makes the explanation scientific and acceptable outside homoeopathy. Treating diseases with competitive enzyme inhibition by Modern medicine and its use in agriculture shows that the application of principle of similars is not limited to homoeopathy and dynamic plane.

3. References

1. Sarkar BK. Hahnemann's Organon of Medicine. Tenth Edition, Birla Publications Pvt. Ltd. New Delhi, Reprint 2006-2007, 398.
2. Hahnemann S. Organon of medicine, Sixth Edition (Translated by William Boericke). New Delhi: Indian Books & Periodicals Publishers; Reprint Edition 1983, 36.
3. Rafi MD. Textbook of Biochemistry for medical students. Second Edition, Universities Press (India) Pvt. Ltd 2014, 117-118.
4. Close Stuart. The Genius of Homoeopathy. New Delhi: B Jain Publishers Pvt. Ltd; Reprint edition 1999, 77.
5. Roberts HA. The Principles and Art of Cure by Homoeopathy. New Delhi: Indian Books & Periodicals Publishers; Reprint Edition 1999, 151-152.
6. Vithoulkas G. The Science of Homoeopathy. B Jain Publishers Pvt. Ltd, New Delhi 1998, 85-86.
7. Dhawale ML. Principles and Practice of Homoeopathy. Third Edition, Dr. ML Dhawale Memorial Trust, Mumbai, Reprint 2010, 247.
8. Dunham C. Homoeopathy- The Science of Therapeutics. Indian Books And Periodicals Publishers, New Delhi, First Reprint 2012, 7-9.
9. Ochs RS. Understanding enzyme inhibition. Journal of Chemical Education 2000;77(11):1453.
10. Ault A. An introduction to enzyme kinetics. Journal of chemical education 1974;51(6):381.
11. Ferrier DR. Lippincott's Illustrated Reviews: Biochemistry. Sixth Edition, Wolters Kluwer (India) Pvt Ltd, New Delhi 2014, 54.
12. Rodwell VW, Bender DA, Botham KM, Kennelly PJ, Weil PA. Harper's Illustrated Biochemistry. 31st International Edition, Mc Graw- Hill Education, USA 2018, 76-78.
13. Chatterjea MN, Shinde Rana. Textbook of Medical Biochemistry. Eighth Edition, Jaypee Brothers Medical Publishers (P) Ltd, New Delhi 2012, 123.
14. Naik P. Biochemistry. Third Edition, Jaypee Brothers Medical Publishers (P) Ltd, New Delhi 2010, 124-126.
15. Lopina OD. Enzyme inhibitors and activators. In Enzyme Inhibitors and Activators 2017, 29. Intech Open.
16. Berg JM, Tymoczko JL, Stryer L. Biochemistry. 5th edition. New York: W H Freeman. Section 8.5, Enzymes Can Be Inhibited by Specific Molecules 2002. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK22530/>
17. Introduction to food enzymes.

- <https://doi.org/10.1016/B978-0-12-813280-7.00001-3>
31 August 2018.
18. Competitive Inhibition of mushroom Tyrosinase by 4-Substituted Benzaldehydes.
<https://doi.org/10.1021/jf010194h>. 21 July 2001.
 19. Xie LP, Chen QX, Huang H, Wang HZ, Zhang RQ. Inhibitory effects of some flavonoids on the activity of mushroom tyrosinase. *Biochemistry (Moscow)* 2003;68(4):487-91.
 20. Chen K, Zhao D, Chen Y *et al.* A Novel Inhibitor against Mushroom Tyrosinase with a Double Action Mode and Its Application in Controlling the Browning of Potato. *Food Bioprocess Technol* 2017;10:2146-2155. <https://doi.org/10.1007/s11947-017-1976-2>
 21. Kent JT. *Lectures on homoeopathic philosophy*. New Delhi: B Jain Publishers Pvt. Ltd; Reprint Edition 1997, 107.