



AN ATTEMPT TO TIE THE AMINE HORMONES TO THE HOMOEOPATHIC REMEDY- SEPIA OFFICINALIS

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ARTICLE INFO:

Article History:

Received On: 24/08/2024

Accepted On: 10/09/2024

Published On: 30/09/2024

eISSN No: 3048-6270

DOI:

10.59939/3048-
6270.2024.v2.i3.4

Website:

<https://www.homoeopathicchronicles.com/journal/ijfirh-current-issue/volume-ii-issue-iii>

Keywords:

Amine hormones,
Melanin, Sepia Officinalis.

ABSTRACT

Amine hormones are generated from the amino acids tryptophan or tyrosine and contain the amino group (NH₂). These hormones are essential to many bodily physiological processes. A variety of amine hormones include serotonin, catecholamines (dopamine, adrenaline and noradrenaline), and thyroid hormones (T₃, T₄). Histaminum is a biogenic amine that plays multiple physiological roles in the human body. Tyrosine is the amino acid that precedes melanin, hence these two have a close relationship. The ink fluid of Sepia Officinalis, a common cuttlefish, includes tyrosine and melanin that are comparable to those found in the human body. Such ink is used for the preparation of Sepia Officinalis a homoeopathic remedy. This article describes the physiological relationship between amine hormones and Sepia Officinalis, a remedy used in homoeopathic therapeutics.



INTRODUCTION

Endogenous and exogenous amines are the two categories of amino acids. The first category consists of tissue-produced neurotransmitters. Included in this group are histamines, indolamines (serotonin, melatonin, and 5-hydroxytryptamine), and catecholamines (dopamine, epinephrine, and norepinephrine). The body uses Biogenic amines for numerous vital purposes. They help normal cell growth and proliferation, contribute to the appropriate management of blood pressure and body temperature, and are involved in the creation of proteins, hormones, and nucleic acids. Most of the biogenic amine has the primary function as neurotransmitters ¹. Amino Hormones are derived from the amino acid tyrosine ². A homoeopathic medicine called *Sepia Officinalis*, made from the inky juice of cuttlefish, has a broad spectrum of activity across several bodily systems³. This cuttlefish's ink fluid contains tyrosinase and melanin, both of which have numerous functions in the human body ⁴.

THE INK JUICE- *SEPIA OFFICINALIS* (CUTTLEFISH)

The cuttlefish consists of different parts in its structure such as the ink sac and the funnel organ. The ink gland produces the rich melanin pigment as its defense mechanism. The ink is extracted by using two methods, and it has its own benefits on using these two methods. One technique, called the "syringe method" attempted to mimic a natural discharge with the least amount of manipulation and harm to the ink sac by using a syringe to gather ink from the duct end of the ink sac of just deceased animal. The second method, known as "milking," involved using animals that had died within a day, after which their ink sac was removed. The ink sac duct was cut, and the contents of the sac were squeezed into a tube using forceps. This maximizes the amount of ink collected but increases the likelihood that material from damaged tissue will be included. The "syringe" approach found that the ingredients of ink included taurine, dopamine, and DOPA (also known as L-dopa, or l-3,4-dihydroxyphenyl-alanine), but it was unable to detect epinephrine. However, the "milking" method produced tyrosinase and adrenaline. This could be because damage during collection or autolysis occurring after the animal died and before collection disrupted the parts of the ink gland that normally do not release their contents into the ink sac⁴.



MELANIN AND SEPIA: THEIR RELATION

Melanin is a type of biomaterial seen in all kinds of biological kingdoms of life. The major functions of melanin in our human system includes, pigmentation, Radical scavenging (Acts as a substance which protects from damaging of a cell), Photoreceptor- healing, Protection from UV Radiation, and Thermal regulation. According to different chemical precursors in bio-synthesis, Melanin is classified into 5 types Eumelanin, Pheomelanin, Neuromelanin, Allomelanin, and Pyomelanin⁵. Melanin acts as a light-absorbing polymer consisting of the contents derived from Tyrosine oxidation. The main process found in Melanin is the Tyrosine oxidation done by the enzyme Tyrosinase. In vertebrates it is only available in the eyes- epithelium of the Retinol. In biological Humans, it is found in the intracellular granules. The transformation of Melanin granules as Melanocytes to epithelial cells leads to the formation of a pre-dominant pigment of hair and epidermis ⁶. Sepia is derived from the inky juice of cuttlefish and Melanin is extracted from the ink sac of the cuttlefish as the Magnesium and Calcium salts. In the process of heating the Carbon-Di Oxide, the purified Sepiomelanin combines with cation and to a lesser amount of anion in the presence of the product Tyrosine⁷. It mainly focuses on the optical and thermal diffusivity properties of Sepia. By using photometric techniques optical properties and the scattering properties were observed to be 580Nm and 633Nm in Sepia⁸.

According to the given literature, Sepia is not only given for Female complaints but also has a dominant role in the skin. It affects young people of both genders who are in between the pubertal period and the last stage of life and who have a delicate constitution either with pure white skin or whose skin has a slight rose tinge. People who are having blonde or red hair, yellow saddle nose a dirty yellow-brown blotched skin³. Since the Melanin product is predominantly seen in the skin. When there is insufficient or irregularity in the source of Melanin in the skin it leads to the cause of pigmentation disorders. In the Homoeopathic Medicine Sepia, the skin symptoms are mainly of pigments disorders such as ringworm infection, leading to circular patchy hypopigmented spots, Herpes Circinatus not relieved by scratching, Chloasma- Also known as Melasma a condition in which hyperpigmented appearance of spots on the face, Urticaria aggravating on open air, Lentigo- another condition where there is a small pigmented spot on the skin with clearly defined edge surrounded by



normal-appearing skin in Yong women and ichthyosis- A group of skin disorders characterized by dry, scaly and thickened skin ⁹.

CATECHOLAMINES AND SEPIA OFFICINALIS

Key Catecholamines produced by sympathetic neurons in the adrenal medulla are noradrenaline (norepinephrine) and adrenaline (epinephrine). Adrenaline mainly acts as a mediator of the body's acute stress response, sometimes known as the "fight-or-flight" response, by raising blood pressure, heart rate, and the availability of energy through the breakdown of glycogen and lipolysis. To get the body ready for instant physical action, it also widens the airways and builds muscle. Although noradrenaline has a role in the stress response as well, its primary action is as a neurotransmitter in the sympathetic nervous system, where it controls blood pressure, arousal, and alertness. Together, the two hormones promote a quick and effective reaction to stimuli, impacting several physiological functions such as heart rate and metabolism¹⁰.

On taking the Cardiac Symptoms of Sepia Officinalis there is Violent intermittent palpitations, Flushing, and beating in all arteries with a tremulous feeling. There is disturbance in the circulation along with a profound throbbing sensation all over the body ³.

THYROID HORMONES WITH SEPIA OFFICINALIS

Thyroid hormones, namely triiodothyronine (T3) and thyroxine (T4), are essential for controlling metabolism and general physiological processes. Within tissues, T4—the major form of thyroid hormone seen in the blood—converts to the more active T3. For healthy growth and development, both hormones are necessary, especially for controlling body temperature, metabolic rate, and energy production. They affect almost every cell in the body by influencing how proteins, lipids, and carbohydrates are metabolized. Furthermore, T3 and T4 are essential for brain, neurological system, and cardiovascular system growth and function. Several health problems, such as hypothyroidism and hyperthyroidism, which are defined by either an underactive or an overactive thyroid function, can result from these hormone imbalances¹¹. Common signs of hypothyroidism include weakness, dry skin, arthralgia, constipation, depression, menorrhagia, myalgia, weight gain, memory loss, and a decrease in energy¹². The symptoms of hyperthyroidism can vary from thyroid storm to asymptomatic. Increased



numbers of cell surface beta-adrenergic receptors allow elevated thyroid hormone levels to augment catecholamine signalling. The most typical signs of hyperthyroidism are the ensuing adrenergic symptoms, which include palpitations, heat intolerance, diaphoresis, tremor, stare, and lid lag. Despite having a greater appetite, hypermetabolism causes weight loss. Proximal muscle weakness is one of the signs of neuromuscular disorders. Anxiety to overt psychosis are examples of psychiatric symptoms. Individuals with chronically untreated hyperthyroidism may experience heart failure or atrial fibrillation ¹³.

The pathophysiology of sepsis involves a decrease in overall energy (metabolism), leading to weariness and exhaustion—a symptom commonly associated with hypothyroidism. Physical signs of sepsis include being cold-sensitive and lacking in essential heat, which are also associated with hypothyroidism symptoms. Overall lethargic, both physically and psychologically is seen in sepsis patients ¹⁴.

DOPAMINE AND SEPIA OFFICINALIS

Research points to a possible connection between depression and reduced dopaminergic neurotransmission. The dopamine governs the following functions: learning, reward, motivation, focus, psychomotor speed, decision-making, and the capacity to feel pleasure. Pre-synaptic neurons generate dopamine (DA), which subsequently interacts with certain receptors to influence post-synaptic neurons ¹⁵.

The most significant characteristic of this Homoeopathic remedy Sepia Officinalis is the presence of mental symptoms. The “picture” of Sepia Officinalis is a brunette woman who has lost the capacity for affection or natural love. She becomes irritable and easily offended, exhibits considerable sadness with much crying, especially when discussing her symptoms, becomes unhappy and indifferent toward everything, longs to be alone and loses passion for life, and feels dull and sluggish both mentally and physically. Again this can be correlated with the reduced dopamine levels ¹⁵.

DISCUSSION

This article examines the connection between Melanin, certain amine hormones with the physiological relation to the homoeopathic medicine Sepia Officinalis by correlating its symptoms available in the Homoeopathic Materia Medica.



A solitary case study involving lentigo treated with *sepia officinalis* showed notable amelioration and total lentigo elimination, as demonstrated by photographic proof, over a nine-month duration¹⁶. An additional case report involving tinea fascia treated with *sepia officinalis* demonstrated improvement in photographic evidence and a modified Niranjo criterion score following treatment, both of which demonstrated positive outcomes¹⁷. The efficacy of homoeopathic medicine, *Sepia officinalis*, in relation with treating skin conditions is evident from these case studies.

Another open observational prospective study was carried out on 53 patients who had complained of distress during the climateric years. The symptoms, including palpitations, hot flashes, anxiety, depression, insomnia, poor memory, etc., and some gynecological symptoms with lab investigations, significantly improved¹⁸. This study also confirms the correlation of *sepia officinalis* and Hormonal relation with its efficacy.

CONCLUSION

This article aims to connect the symptoms of the homoeopathic medicine *Sepia Officinalis* with the Amine hormones. In homoeopathic treatment, *sepia officinalis* is frequently recommended for a wide range of illnesses. This concept of the relation between *sepia officinalis* and Amine Hormones is initiated in this article. The validation of this idea requires additional research.

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How to cite this Article: Bhargavi, Narayan M V. An attempt to tie the Amine hormones to the homoeopathic remedy- *sepia officinalis*. International Journal for Fundamental and Interdisciplinary Research in Homoeopathy [Internet]. 2024;2(3):28–35. Available from: <http://dx.doi.org/10.59939/3048-6270.2024.v2.i3.4>