



Effect of yoga hand mudra on hypothyroid patients

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Abstract

Hypothyroidism is defined as failure of thyroid gland to produce sufficient thyroid hormone to meet the metabolic demands of the body. A significant number of women as compare to male are suffering from hypothyroidism. It is characterized by elevated thyroid stimulating hormone. Regular practices of yoga hand mudra are useful in preventing and managing a wide range of clinical condition such as diabetes, anxiety, depression, pain, thyroid disorders and hypertension. Our study includes seven subjects suffering from hypothyroidism from age group 30-65. The patients were asked to perform yoga mudra according to standard procedure. The pathological parameters T3, T4, TSH and parameters from 4G-Quantum magnetic resonance Analyzer T3, FT4, Thyroid secretion index and Pituitary secretion index for hypothyroid patients were recorded before and after performing the mudra. There was a significant improvement in pathological as well as 4G-Quantum Analyzer parameters. Yoga mudra works on autonomic nervous system and endocrine system through peripheral system and central nervous system. This yoga hand mudra is an important alternative traditional therapy apart from medication to support patient's health. Hence, we coined this mudra as "T Mudra" - a possible cure for hypothyroidism.

Keywords: Thyroid, hypothyroidism, yoga hand mudra, T3, T4, TSH, T mudra.

Introduction

Thyroid gland disorders are among the most common endocrine disorders worldwide, second to diabetes. Thyroid disorder is a clinical condition that affects the function of the thyroid gland located at front of neck which produces thyroid hormones. Data from various studies on thyroid diseases, it has been found that 42 million people in India suffer from thyroid disorders¹. Different thyroid disorders in India are Hypothyroidism, Hyperthyroidism, Hashimoto's thyroiditis, iodine deficiency, surgical removal of thyroid, auto-immune thyroiditis, postpartum thyroiditis, riedels thyroiditis and thyroid cancer¹.

One of the study suggested that the prevalence of thyroid disorders in central India is very high and women between 19 to 45 of age are more prone to these disorders². Hypothyroidism is more prevalent as compared to hyperthyroidism in India². An epidemiological study from eight cities of India showed high prevalence of hypothyroidism². The hypothyroidism is more in women than in men and common in old aged women³. Old aged females were found to be more prone to hypothyroidism⁴.

In the developed world the prevalence of hypothyroidism is 4-5%^{5,6}. In the developed world the subclinical hypothyroidism prevalence is 4-15%^{5,7}.

One-third of the world's population has low dietary iodine levels, making iodine-deficiency a common cause of hypothyroidism and goiter. The common hypothyroidism symptoms are cold intolerance, fatigue, weight gain, dry skin and depression etc⁸. The optimal approach to confirm the laboratory diagnosis for thyroid disorder is to test Triiodothyronine (T3), Thyroxine (T4) and Thyroid Stimulating hormone (TSH). The most useful diagnostic marker for thyroid gland function is serum TSH levels. However, lab test on thyroid may not convey accurate thyroid status in patients with non-thyroidal illness and thyroid hormone resistance. Thus, hypothyroidism can be managed also by Yoga Therapy⁹. Regular use of Yoga can have positive effects on thyroid patients¹⁰⁻¹³.

Rishis who are known as learned scientists centuries before elucidated about yoga techniques in ancient literature. These literary work mentions correct uses, pressure and place of pressure of hand posture or the hand mudras. All these procedures were handed down to their disciples through Shruti means by practical or oral expression. Studying only single Shastra may not deliver complete medical knowledge. Thus, it is important for, a doctor to acknowledge himself in maximum parallel fields of science¹⁴. In vedic period worshipping had various styles one of such was classical dancing in that also

certain postures were used which resulted great energy in the dancer even after marathon performance. Also the postures were used in day to day life for spiritual and health benefits. Later on these hand mudras were used to prevent and cure diseases. World health organization has advised repeatedly for alternative or traditional medicine treatment choice for thyroid disorders, heart diseases, hypertension and other disease patient's population¹⁵. The Yoga Mudra technique balances the parasympathetic and sympathetic system of body which maintains good health¹⁶.

Hand postures are integral part of Yoga which affects body and it's certain organ system through fingers by touching different locations on hands for definite period of time to bring positive change and health improvement¹⁷. On searching the literature in this regards it is found that publication and it's practical application is limited^{18,19}. The research was done to know the effectiveness of yoga hand mudra on different thyroid pathological and 4G-Quantum analyzer tests for curing hypothyroid patients. There were tremendous results of yoga hand mudra and proved as a lifesaving therapy for thyroid patients.

Methodology

The study was conducted from July 2017 to November 2017 and seven hypothyroid patients were included from Indore, India. The study was conducted on patients from the age group of 30-65. A prior written consent was taken from all patients. The patients were asked to stay relaxed 15-20 minutes prior noting down all the parameters. The blood samples were collected for T3, T4, TSH pathology tests before performing the mudra and three months after performing the mudra. The subjects were asked to perform the mudra on regular basis for three months and above.

Following pathological parameters were taken for the present study:

Thyroid Stimulating hormone (TSH): The TSH normal range is 0.35-5.5 μ IU/ml. The most appropriate way to test thyroid disorder is to measure TSH level. Hypothyroidism is indicated by high TSH level.

Tri iodothyronine (T3): The normal range of T3 is 80-200 ng/dL. T3 are useful to determine the severity of hypothyroidism. The low level T3 indicates hypothyroidism.

Thyroxine (T4): The normal range of T4 is 5.5-11 ug/dL. Deficient secretion of thyroxine in the body is an indicator of hypothyroidism.

The T3, Free thyroxine (FT4), Thyroid secretion Index (TSI) and Pituitary secretion index parameters were measured before and after performing the mudra by 4G-Quantum magnetic resonance Analyzer (Figure-1), Keval, Japan¹⁹. This machine detects weak magnetic field of cells in humans and analyze it

scientifically. It compares every organ with referenced database, thereby determining health status.



Figure-1: Showing 4G Quantum Magnetic Resonance Analyzer.

Following 4G-Quantum magnetic resonance Analyzer parameters were taken for the present study:

Free thyroxine (FT4): The values decreasing or in normal range (0.100-0.310) for Quantum magnetic resonance Analyzer indicates the person is improving in health status.

Triiodothyronine (T3): The values decreasing or in normal range (0.160-0.300) for Quantum magnetic resonance Analyzer indicates the person is improving in health status.

Thyroid secretion Index (TSI): TSI indicates the amount of thyroid hormone secreted in the body. The values increasing or in normal range (2.954-5.543) for Quantum magnetic resonance Analyzer indicates the person is improving in health status.

Pituitary secretion index: Pituitary gland secretes hormones such as growth hormone, TSH and other hormones. It regulates metabolism, growth, development and reproduction. The values increasing or in normal range (2.163-7.34) for Quantum magnetic resonance Analyzer indicates the person is improving in health status.

Yoga hand mudra procedure shown in Figure-2.



Mudra-1: Sequential order of T-Mudra



Mudra-2: Sequential order of T-Mudra.

Figure-2: Yoga hand mudra procedure.

Mudra-1: Grip the 2nd phalanx of the thumb with the help of first finger and thumb of other hand and move the thumb along with the other fingers and the hand more than 180 degree to and fro. The pressure should be up to the bones. Perform the mudra 100 times within 24 hours in different spell on both hands.

Mudra-2: Below the last phalanx, grip the portion of thumb with the help of first finger and thumb of other hand and move the thumb along with the other fingers and the hand more than 180 degree to and fro. The pressure should be up to the bones. Perform the mudra 100 times within 24 hours in different spell on both hands.

Results and discussion

The seven hypothyroid patients who practised yoga hand mudra regularly were evaluated before and after three months are

shown in Table-1. In Table-1 all hypothyroid patients for TSH showed decrease in values after performing yoga hand mudra. Moreover, all hypothyroid patients for T3 showed increase in values after performing yoga hand mudra. Further, out of seven hypothyroid patients six showed increase in T4 values after performing yoga hand mudra.

In Table-2 4G quantum analyzer parameters for thyroid patients are shown. T3 showed decrease in values after performing yoga hand mudra in all hypothyroid patients shown in Table-2. Further, out of seven hypothyroid patients six showed decrease in FT4 values after performing yoga hand mudra in Table-2. The endocrine parameters TSI and pituitary secretion index showed increase in values after performing yoga hand mudra shown in Table-2.

Table-1: Results of Yoga mudra on hypothyroid patients showing T3, T4 and TSH Pathology tests.

Subjects	Sex	T3		T4		TSH	
		Normal range (80-200 ng/dL)		Normal range (5.5-11 ug/dL)		Normal range (0.35-5.5 µIU/ml)	
		Before	After	Before	After	Before	After
1.	F	105.00	119.5	7.79	6.96	12.57	9.34
2.	F	100	134.6	8.2	9.27	10.78	1.46
3.	F	93	127	9.09	10.12	2.68	2.45
4.	M	116	128	6.83	8.3	6.6	5.81
5.	F	99	108	1.42	11.29	6.5	5.75
6.	F	92.91	107.4	7.39	9.09	0.74	0.221
7.	F	96	104	8.0	9.46	5.9	5

Table-2: Results of Yogamudra on hypothyroid patients using 4G Quantum Analyzer showing T3, FT4, TSI and pituitary index.

Subjects	Sex	T3		FT4		TSI		PSI	
		Normal range (0.160-0.300)		Normal range (0.100-0.310)		Normal range (2.954-5.543)		Normal range (2.163-7.34)	
		Before	After	Before	After	Before	After	Before	After
1.	F	0.341	0.310	0.311	0.454	0.500	0.543	1.966	2.019
2.	F	0.872	0.844	0.717	0.661	3.384	3.392	0.772	1.048
3.	F	0.269	0.186	0.270	0.145	1.119	1.638	3.289	3.378
4.	M	0.467	0.347	0.224	0.241	1.866	1.977	1.573	2.058
5.	F	0.516	0.438	1.009	0.942	2.462	2.532	1.843	2.140
6.	F	0.533	0.447	0.783	0.727	2.632	2.420	1.667	1.699
7.	F	0.583	0.347	0.483	0.377	2.399	2.454	1.542	1.998

For the maintenance of metabolic homeostasis and thermogenic system the body cells rely upon thyroid hormones¹⁰. In the endocrine system the thyroid gland secretes hormones to regulate growth, metabolism, blood pressure, kidney function, response to stress, cardiovascular function, the immune system and sexual development and function.

Thyroid is "The Master Hormone" that controls everything in our whole body. The irregular synthesis of thyroid hormones arise from disrupted function of thyroid gland, the hypothalamus secretes thyrotropin releasing hormone (TRH), which stimulates the production of TSH by pituitary gland. Insufficient hormone production leads to hypothyroidism. Hypothyroidism develops from shortage of thyroid hormone, therefore, thyroid hormone supplementation is required. Although medication treatment provides hormone control, still thyroid diseases continue throughout life and patient may require lifelong medications.

The yoga hand mudra techniques can help to stimulate thyroid glands and thus improve overall thyroid function by helping them work at optimal levels.

In the present study, a significant improvement was seen in thyroid pathological parameters as well as in thyroid 4G-Quantum Analyzer parameters in hypothyroid patients. There are supporting research data which indicate that a yoga technique (asana, suryanamaskar, pranayama and dhyana) modulates the secretion and function of thyroid hormones¹¹. In a study of yogic practices in hypothyroid diseases including singhasana, matyasana, sarvangasana, pranyamas, nadishodhan shows significant improvement in thyroid disease¹². In another study, Yoga for a month has significantly improved WHO Quality Life score ($p < 0.01$) of 20 female suffering from hypothyroid¹³.

A study performed by Savitri N et al on twenty household women suffering from hypothyroidism practice yoga for six months, 1 hour daily for 4 days a week showed a non significant reduction in TSH level, but a significant reduction in thyroxin medication score²⁰. Our study showed outstanding improved results in T3, T4, TSH pathology parameters. Further, in 4G-Quantum Analyzer thyroid parameters T3, FT4, TSI and pituitary secretion index were significantly improved after performing thyroid mudra.

Hypothyroid disease is increasing at an alarming rate. Although with proper attention and awareness of the deep physiological therapies available through yoga hand mudra, it is possible to treat hypothyroidism. Yoga hand mudra is a holistic approach for treating hypothyroid disorder. Remedies like medications and surgeries are going to provide a temporary relief not a permanent solution for hypothyroidism. Our assumption on the yoga hand mudra is that it affects on sympathetic and parasympathetic system and endocrine system through peripheral neural system and brain. The use of this mudra in normal person will prevent from any possible thyroid disorder.

Conclusion

The results indicate yoga hand mudra is outstanding treatment for curing hypothyroidism. We coined this mudra as "T Mudra" - a possible cure for hypothyroidism.

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References

1. Unnikrishnan A.G. and Menon U.V. (2011). Thyroid disorders in India: An epidemiological perspective. *Indian J Endocr Metab.*, 15(2), 78-81.
2. Bose A., Sharma N., Hemwani N. and Chitnis D.S. (2015). A Hospital based prevalence study on thyroid disorders in malwa region of central India. *International Journal of Current Microbiology and Applied Sciences*, 4(6), 604-611.
3. Unnikrishnan A.G., Kalra S., Sahay R.K., Bantwal G., John M. and Tewari N. (2013). Prevalence of hypothyroidism in adults: An epidemiological study in eight cities of India. *Indian journal of endocrinology and metabolism*, 17(4), 647.
4. Nimmy N.J., Aneesh P.M., Narmadha M.P., Udipi R.H. and Binu K.M. (2012). A Survey on prevalence of thyroid disorders induced by demography and food habits in south Indian population. *Indian Journal of Pharmacy Practice*, 5(2), 49-52.
5. Hollowell J.G., Staehling N.W., Flanders W.D., Hannon W.H., Gunter E.W., Spencer C.A. and Braverman L.E. (2002). Serum TSH, T(4), and thyroid antibodies in the United States population (1988 to 1994): National Health and Nutrition Examination Survey (NHANES III). *J Clin Endocrinol Metab*, 87(2), 489-99.
6. Hoogendoorn E.H., Hermus A.R., de Vegt F., Ross H.A., Verbeek A.L., Kiemeny L.A., Swinkels D.W., Sweep F.C. and den Heijer M. (2006). Thyroid function and prevalence of anti-thyroperoxidase antibodies in a population with borderline sufficient iodine intake: influences of age and sex. *Clin Chem.*, 52(1), 104-111.
7. Bembem D.A., Hamm R.M., Morgan L., Winn P., Davis A. and Barton E. (1994). Thyroid disease in the elderly. Part 2. Predictability of subclinical hypothyroidism. *Journal of family practice*, 38(6), 583-588.
8. Chaker L., Bianco A.C., Jonklaas J. and Peeters R.P. (2017). *Lancet*, 390(10101), 1550-1562.
9. Mali S.N., Mahgar D.S., Sachdeo R.A. and Morbale T.S. (2017). Hypothyroidism and alternative treatment: An

- Overview. *International Journal of science and research methodology*, 6(1), 38-52.
10. Patel A. (2009). Hypothyroidism, a Comparative Study of Allopathic and Ayurvedic Management of the Disease (Ph.D. thesis). California College of Ayurveda.
 11. Chatterjee S. and Mondal S. (2017). Effect of combined yoga programme on blood levels of thyroid hormones. *Indian Journal of Traditional Knowledge*, 16, 9-16.
 12. Singh G. (2012). A study of the effect of Yogic practices in hypothyroid disease (PhD). Dev Sanskriti Vishwavidyalaya, Haridwar, India.
 13. Singh P., Singh B., Dave R. and Udainiya R. (2011). The impact of Yoga upon female patients suffering from hypothyroidism. *Complementary Therapies in Clinical Practice*, 17(3), 132-134.
 14. Nripendranath Sengupta and Balai Chandra Sengupta (1937). *Susruta, Susrutasamitha*. Calcutta: C.K. Sen and Company.
 15. Prasad L.V. (2002). *Indian System of Medicine and Homoeopathy Traditional Medicine in Asia*. Chaudhury Ranjit Roy, Rafei Uton Muchatar, editors, New Delhi: WHO-Regional Office for South East Asia, 283-286.
 16. Muralikrishnan K., Balakrishnan B., Balasubramanian K. and Visnegarawla F. (2012). Measurement of the effect of Isha Yoga on cardiac autonomic nervous system using short-term heart rate variability. *Journal of Ayurveda and Integrative medicine*, 3(2), 91-96.
 17. Hirschi Gertrud (2016). *Mudras, Yoga in your Hands* Samuel Weiser. Inc., United states of America, 224.
 18. Tripathi D., Bhatt J.K., Kalantri Y., Chitnis V., Chitnis S. and Kalantri R.C. (2016). Effect of Yoga Hand Mudra for controlling High Blood pressure. *Res. J. Recent. Sc.*, 5, 33-35.
 19. Tripathi D., Kalantri Y., Kumar H., Chitnis V., Chitnis S., Kalantri R.C. and Bhatt J.K. (2017). Effect of Yoga Hand Mudra on cardiac and neurological p preventing heart attack. *Res. J. Recent. Sc.*, 6(2), 16-20.
 20. Nilakanthan S., Metri K., Raghuram N. and Hongasandra N. (2016). Effect of 6 months intense Yoga practice on lipid profile, thyroxine medication and serum TSH level in women suffering from hypothyroidism: A pilot study. *Journal of Complementary and Integrative Medicine*, 13(2), 189-193.