The Effect of Ayurvedic Treatment in Management of Hypothyroidism: Case Series

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Abstract: Hypothyroidism result from low level of thyroid hormone with varied etiology and manifestation. Untreated hypothyroidism increases morbidity and mortality. Charaka mentioned Galaganda is a disease mainly cause due to vitiated Kapha Dosha.
Methods- Case series of 10 patients were managed with Kanchanar Siddha Ghruta Snehapana followed by Virechana and Ayurvedic treatment. Assessment was done on the basis of thyroid profile and lipid profile.
Result- Improvement in lipid profile and Decreased in Sr. TSH level will be stated in full paper.
Discussion and Conclusion- After administration of Kanchanar Sidha Ghruta, Virechana and Ayurvedic medicine changes in Sr. TSH observed with changes in Lipid profile, which is mention in full paper. On this we concluded that Ayurvedic internal medicine and Panchakarma is beneficial in treatment of Hypothyroidism.

Keywords: Kanchanar Ghruta, Hypothyroidism, Virechana, Sr. TSH, Kanchanar Guggul, Sr. Cholesterol

Introduction

Hypothyroidism result from low level of thyroid hormone with varied etiology and manifestation. Untreated hypothyroidism increases morbidity and mortality. Hypothyroidism majorly divided into two category, primary and secondary hypothyroidism. The most common cause of hypothyroidism is the inability of thyroid gland to produce a sufficient amount of thyroid hormone however less commonly pituitary and hypothalamus may also be produces thyroid disturbances. Autoimmune thyroiditis causes an increase in the turnover of iodine and impaired organification. Chronic inflammation of the parenchyma leads to predominant T cell lymphocytic infiltration.

Thyroid dysfunction, prominently sub-clinical hypothyroidism has been observed more frequently in metabolic syndrome patients than general populations. Both metabolic syndrome and hypothyroidism are independently risk factor for cardiovascular diseases.

Charaka mentioned Galaganda is a disease mainly cause due to vitiated Kapha Dosha. According to Sushruta it is cause due to aggravated Kapha Dosha and Vata Dosha along with Meda Dhatu Dushti. Vagbhata stated that it is caused due to the Kapha associated with Pitta Dushti along with vitiated Vata and Margavarodha happen in Rasavaha Strotasa, Medovaha Strotasa and Masavaha strotasa. Autoimmunity goes parallel with theory of Aama [intermediatory Product] in Ayurveda.

According to modern science hypothyroidism is a metabolic disorder causing hormonal disturbances. Hormone replace therapy is only one option in modern science which causes very serious side effect and lifetime hormone dependency. In ayurveda it can be corrected with treatment of Dhatvagni Mandya. Agni Mandya is a cause of Dhatvagni Mandya by formation of Aama. According to Ayurveda it is going to treat by correcting Aama by Dipana and Pachana, improve Agni by Dipana, Pachana and Anulomana, and balancing Tridosha by Shodhana Chikitsa like Virechana.

Case records –

All patients coming in OPD with complaints excessive weight gain, generalised weakness, loss of appetite, irregular menstrual cycle, dyspnoea on exertion, all joints pain, constipation, lethargy etc within Two month is screened on basis of symptoms. Ten female patients show changes in Sr. TSH, Sr. T3, Sr. T4 without personal history of thyroid problem. These 10 female patients are having changes in thyroid profile with raised of Sr. TSH level consider as newly detected hypothyroidism. These 10 newly detected female patients included in study who are diagnosed as a hypothyroidism.

Inclusion Criteria -

1] Sr. TSH level in between more than 5 mlU/L to 99 mlU /L.
2] Age should be 18 years to 40 years.
3] Newly Detected patients are included.

Exclusion Criteria -

1] Sr. TSH more than 99 mlU/L and less than 5 mlU/L.
2] Chronic cases of hypothyroidism.
3] Patients with other metabolic diseases like diabetes mellitus, hypertension etc.

Criteria of Assessment -
1] Sr. TSH
2] BMI
3] Sr. Cholesterol

Material and methods -
All ten patients are treated with Deepana, Pachana, Anulomana for 5 days followed by Kanchanar Sidhha Grutpana for seven days. After Snehapana two days Virama Kala is advised to patients in which Sarvang Snehana and Saravanga Swedana applied externally for Doshagati of Dosha from Shakha to Koshth. On the next day of Viramakala, Virechana is given to patients with Abhayadimodaka after Sarvanga Snehana and Sarvanga Swedana locally followed by Sansarjana Krama for five – seven days depend upon the Koshtha Shudhi during it Sunthi Sidha lukewarm water is given to the patients. After completion of Sansarjana Krama as per Ayurvedic text, Ayurvedic herbal drugs are given to the patients for 35 days.

Treatment -
Internal medicine is given firstly for Dipana, Pachana and Anulomana contains tab Sutashekhara Rasa 2tab bd [before meal] and Tripala-Musta-Vidanga Kwath 40 ml bd [after meal] for 5 days.
Sutashekhar Rasa - It corrects vitiated state of Tridosha specially Pitta Dosha improves whole digestive process and result in proper functioning of Agni. The Ruksha, Laghu, Katu and Ushna Guna of Sutashekhar Rasa act on Aama and Agni which is helpful in Agni Dipana and Aama Pachana.

Triphala - Musta – Vidanga Kwath - It is working in body as Dipana, Pachana, and Anulomana.
Kwatha preparation- The patient is advised to prepare fresh Kwatha every day twicely by adding 5 gm churna of Tripala-Musta-Vidanga in 80 ml water. Boiled it up to reduces as 40ml [½ of water]

Kanchanar Sidhha Ghruta preparation –
For Sidhhi of one kg Gruta, prepare a Kanchanar Kwatha of four Liters by adding 500 gm Kanchanar Churna with eight-liters water which get reduced to half that is four liters. In 1 kg Gogruta add 250 gm Kalka of Kanchanar and then add 4-liters Kanchanar Kwatha for preparation of Kanchanar Grut.

Table no 1
Table Showing Doses of Snehapana

Dose	1st dose	2nd dose	3rd dose	4th dose	5th dose	6th dose	7th dosed
	30 ml	50 ml	70 ml	90 ml	120 ml	130 ml	150 ml
Time	6 am	6 am	6 am	6 am	6 am	6 am	6 am
Anupana	Warm water	Warm water	Warm water	Warm water	Warm water	Warm water	Warm water

Abhayadi Modaka – it has laxative effect apart with that it helps in proper digestion. It restored acid balance naturally and relieves discomfort and pain so helps in hyperacidity. It helps to relief from constipation and hyperacidity without any side-effect. The ingredients of Abhayadi Modaka are Trivruta, Danti, Pippali, and Amalaki etc.
Virechana – Abhayadi Modaka tablet is given to patients on 10th day morning 7am after Sarvanga Snehana and Sarvanga Swedana externally with lukewarm water. Virechana is a one of Panchakarma used for Detoxification of body and balance the Dosha in body.
Sansarjan Karma – Depending upon Madhyam and Pravara Shudhhi, seven or five days Sansarjana Krama is given to patients for Agnidipana and proper metabolic process which are as follow.

Table no. 2
Table Showing Sansarjana Karma

Day	Sansarjana Karma	Day	Sansarjana Karma	Day	Sansarjana Karma
1st day	Peya	3rd day	Akritayusha	5th day	Prakrutibhojana
2nd day	Vilepi	4th day	Kritayusha		

By calculating Avara, Madhyama, and Pravara veg of Virechana, all patients having Madhyam Shudhi so the five days Sansarjana Karma advise to all the ten patients with Shunthi Siddha lukewarm wate.
Internal Medicine (ayurvedic) –

Table no. 3
Table Showing Drug and Doses of Ayurvedic Medicine

Sr. no.	Name of medicine	Dose of medicine	Time (sevankala)
1	Kanchanar Guggul	250 mg 2tablet OD	At 7 am (empty stomach)
2	Gandamalakandana Rasa	250 mg 1tablet BD	After meal (Prane,Udane)
3	Triphala Churn	5 gm HS	After meal at night
4	Sutashekhara Rasa	250 mg 1tab BD	Before meal (Apane)

After Virechana and Sansarjana Karma, 35 days internal medicine is advised to all patients for maintain Dosha-Dhatu-Satmya.

Observation-

Table no. 4

Table Showing Changes in Body Weight

Sr. no.	Body weight [B.T.] in Kg	After Snehana (in kg)	After Virechana (in kg)	After 35 Days Drug therapy (in kg) [A.T.]	Difference	Percent of relief
1	76	74	64	63	13	17.10 %
2	78	77	69	67	11	14.10 %
3	67	65	61	60	7	10.44 %
4	80	79	68	68	12	15 %
5	75	73	63	64	11	14.66 %
6	76	75	67	65	11	14.47 %
7	73	72	66	65	8	10.95%
8	77	77	64	65	12	18.18 %
9	65	63	56	55	10	15.38 %
10	61	61	55	53	8	13.11 %
Total	728	716	633	625	103	14.14 %

Table no. 5

Table Showing Changes in Body Mass Index [BMI]

Sr. no.	Age of patient	Height of patient	BMI [B.T.]	After Virechana	After drug therapy [A.T.]	Difference	Percent of relief
1	28	160cm	29.7	25	24.6	5.1	17.17 %
2	28	156cm	32.1	28.4	27.5	4.6	14.33 %
3	23	155cm	27.9	25.4	25	2.9	10.39 %
4	26	155cm	33.3	28.3	28.3	5	15.01 %
5	25	156cm	30.8	25.9	26.3	4.5	14.61 %
6	23	157cm	30.8	27.2	26.4	4.4	14.28 %
7	26	153cm	31.2	28.2	27.8	3.4	10.89 %
8	27	158cm	30.8	25.6	26	4.8	15.58 %
9	28	160cm	25.4	21.5	21.5	3.9	15.35 %
10	29	162cm	23.2	23.2	20.2	3	12.93 %
Total	----	---	295.2	258.7	253.6	41.6	14.09 %

Table no. 6

Table Showing Changes in MRC Scale

Sr. no.	MRC Scale [B.T.]	After Virechana	After Drug Therapy [A.T.]	Difference	Percent of relief
1	2	01	00	2	100 %
2	3	02	00	3	100 %
3	2	01	00	2	100 %
4	2	01	00	2	100 %
5	3	02	00	3	100 %
6	3	02	00	3	100 %
7	3	02	00	3	100 %
8	2	01	00	2	100 %
9	1	00	00	1	100 %
10	2	01	00	2	100 %
Total	23	13	00	23	100 %

Table no. 7

Table Showing Changes in Heart Rate [Pulse]

Sr. no.	Heart Rate/minute [B.T.]	After Virechana	After Drug Therapy [A.T.]	Difference	Percent of relief
1	58	66	70	12	20.68 %
2	55	68	72	17	30.90 %
3	62	80	74	12	19.35 %
4	66	71	76	10	15.15 %
5	64	70	74	10	15.62 %
6	68	64	70	2	2.94 %

7	60	72	78	18	30 %
8	62	70	74	12	19.35 %
9	68	66	72	4	5.88 %
10	70	72	80	10	14.28 %
Total	633	699	740	107	16.90 %

Table no. 8
Table Showing Changes in Sr. TSH

Sr. no.	Sr. TSH [B.T.] in mlU / L	After Virechana in mlU/L	After Drug Therapy [A.T.] in mlU/L	Difference	Percent of relief
1	36	8	3	33	91.66 %
2	56	16	4.1	51.9	92.67 %
3	63	27	3.25	59.75	94.84 %
4	48	29	2.45	45.55	94.89 %
5	36	16	2.15	33.85	94.02 %
6	27	11	3.55	23.45	86.85 %
7	12	3.2	2.1	9.9	82.5 %
8	16	2.5	1.3	14.63	91.43 %
9	38	13	3.85	34.15	89.86 %
10	42	17	4.28	37.72	89.80 %
Total	374	142.7	30.1	343.9	91.95 %

Table no. 9
Table Showing Changes in Sr. T3

Sr. no.	Sr. T3 [B.T.] in ng/dl	Sr. T3 [A.T.] in ng/dl	Difference	Percent of relief
1	102	100	2	1.96 % %
2	110	104	6	5.45 %
3	130	120	10	7.69 %
4	120	106	14	11.66 %
5	150	146	4	2.66 %
6	140	130	10	7.14 %
7	120	120	0	0 %
8	170	140	30	17.64 %
9	140	110	30	21.42 %
10	180	170	10	5.55 %
Total	1362	1246	116	8.51 %

Table no. 10
Table Showing Changes in Sr. T4

Sr. no.	Sr. T4 [B.T.] in µg/dl	Sr. T4 [A.T.] in µg/dl	Difference	Percent of relief
1	5	6	1	20%
2	7	8.3	1.3	18.57%
3	8	8.4	0.4	6.95 %
4	9	9.9	0.9	10%
5	5.2	5.6	0.4	7.69%
6	8.3	8.3	0	0%
7	7.6	7.6	0	0%
8	9	9.3	0.3	3.33%
9	10	10.6	0.6	6%
10	7.6	8.2	0.6	7.89%
Total	76.7	82.2	5.5	7.17%

Table no. 11
Table Showing Changes in Cholesterol

Sr. no.	Total Cholesterol [B.T.] in mg/dl	After Virechana in mg/dl	After Drug Therapy in mg/dl [A.T.]	Difference	Percent of relief
1	210	180	140	70	33.33 %
2	220	170	130	90	40.90 %
3	230	190	150	80	34.78 %
4	210	160	120	90	42.85 %
5	245	200	160	85	34.69 %
6	210	145	125	85	40.47 %
7	250	190	170	80	32 %
8	200	145	130	70	35 %
9	260	200	160	100	38.46 %
10	230	180	150	80	34.78 %
Total	2265	1760	1435	830	36.64 %

Table no. 12
Table Showing Changes in LDL

Sr. no.	LDL [B.T.] in mg/dl	After Virechana in mg/dl	After Drug Therapy in mg/dl	Difference	Percent of relief
1	130	101	94	36	27.69 %
2	156	110	98	58	37.17 %
3	166	106	89	77	46.38 %
4	149	102	91	58	38.92 %
5	155	122	82	73	47.09 %
6	142	111	86	56	39.43 %
7	167	100	80	87	52.09 %
8	145	114	97	48	33.10 %
9	148	123	95	53	35.81 %
10	139	108	82	57	41 %
Total	1497	1097	894	603	40.28 %

Table no. 13
Table Showing Changes in HDL

Sr. no.	HDL [B.T.] in mg/dl	After Virechana in mg/dl	After Drug Therapy in mg/dl	Difference	Percent of relief
1	57	65	70	13	22.80 %
2	54	61	68	14	25.92 %
3	48	55	60	12	25 %
4	49	52	74	25	51.02 %
5	38	44	55	17	44.73 %
6	45	60	65	20	44.44 %
7	52	57	72	20	38.46 %
8	59	63	64	5	8.47 %
9	58	67	72	14	24.13 %
10	61	65	70	9	14.75 %
Total	521	589	670	149	28.59 %

Table no. 15
Table Showing Changes in Triglycerides

Sr. no.	Triglycerides [B.T.] in mg/dl	Triglycerides [A.T.] in mg/dl	Difference	Percent of relief
1	160	110	50	31.25 %
2	176	124	52	29.54 %
3	188	140	48	25.53 %
4	179	134	34	25.13 %
5	184	144	40	21.73 %
6	155	101	54	34.83 %
7	154	107	47	30.51 %
8	177	110	67	37.85 %
9	165	123	42	25.45 %

10	184	133	51	27.71 %
Total	1722	1226	485	28.16 %

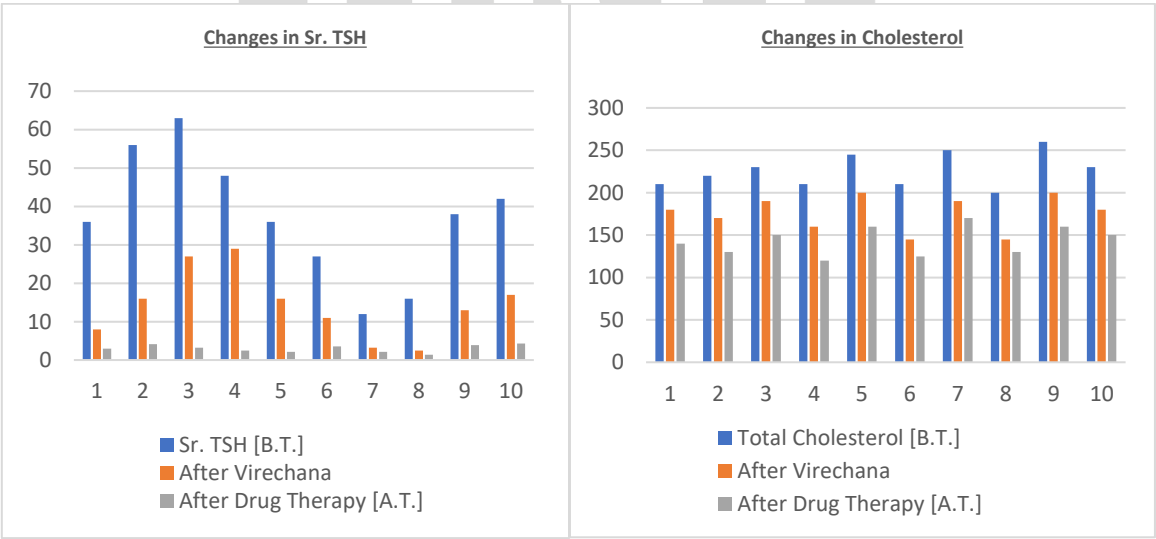
Table no. 16
Table Showing Changes in Fasting Sugar Level

Sr. no.	Blood sugar [B.T.] in mg/dl	Blood sugar [A.T.] in mg/dl	Difference	Percent of relief
1	130	100	30	23.07 %
2	120	106	14	11.66 %
3	88	70	18	20.45 %
4	110	96	14	12.72 %
5	94	84	10	10.63 %
6	120	101	19	15.83 %
7	114	92	22	19.29 %
8	140	110	30	21.42 %
9	135	85	50	37.03 %
10	124	88	36	29.03 %
Total	1175	932	243	20.68 %

Table no. 17
Table Showing Changes in Post-meal Sugar Level

Sr. no.	Blood sugar [B.T.] in mg/dl	Blood sugar [A.T.] in mg/dl	Difference	Percent of relief
1	150	120	30	23.07 %
2	140	116	24	17.14 %
3	144	119	25	17.36 %
4	156	128	29	18.58 %
5	163	134	29	17.79 %
6	145	103	42	28.96 %
7	157	134	23	14.64 %
8	149	122	27	18.12 %
9	164	109	55	33.53 %
10	162	136	26	16.04 %
Total	1530	1221	310	20.26 %

Graphical Presentation –



Discussion –

During this study, it is going to observed that women are more prone to have hypothyroidism than men as all ten patients are women. Hormonal imbalance is caused due to the Aama and Agni Mandya as it is metabolic disorder which get corrected by Dipana, Pachana and Vatanulomana Chikitsa. Tablet Sutashekhara and Triphala-Musta -Vidanga Kwatha is beneficial in Aamapachana, Agnidipana and correction of Dhatvagni-Mandya as we know Hypothyroidism is a Metabolic Disorder. In this series maximum 13 kg and minimum 7 kg weight loss are observed after Virechana. In this study 14.14 % weight loss are observed after administration of

Ayurvedic drug and improve metabolism. Virechana is effective in management of obesity due to a reduction in the E. coli colonization after Virechana by correcting gut flora dysbiosis. Due to weight loss, it is observed that BMI shows 14.09 % improvement. Hypothyroidism cause respiratory muscles weakness and decrease pulmonary function. It reduces respiratory drive and cause obstructive sleep apnoea or pleural effusion. So that dyspnoea on exertion is a common complaint of all patients of hypothyroidism which get corrected 100 % by ayurvedic treatment as MRC scale gets 100 % improvement. Thyroid hormone exerts its cardiovascular effects by binding to intracellular thyroid receptors (TR) which, in turn, bind to thyroid hormone response elements (TRE) on various genes and can affects genes transcription and subsequently protein translation. The low metabolic state in hypothyroidism causes bradycardia by regulating heart rate and reduce cardiac contractibility leading to reduce cardiac output. In this study it is observed that patients heart rate increases 16.90 % and get normalised due to Ayurvedic treatment with normalising Sr. TSH level. Sr. TSH level is increases in hypothyroidism due to thyroid dysfunction after body detoxification and Ayurvedic treatment, it gets normalised within normal range of all ten patients. In this study it is observed that 91.95 % relief in decreasing Sr. TSH level. Thyroid hormone is responsible to increases LDL receptors that sits on the surface of the liver. Its job is to recognise, take up lipoproteins and remove them from the bloodstream. In hypothyroidism, thyroid hormone is decrease, the number of LDL receptor on the liver surface and the ability to clear out cholesterol are decrease which leads to increase the cholesterol. In this study 36.64% of cholesterol decrease with 40.28 % of decrease in LDL level. Purva Karma, Virechana and Pachhyada Karam have fat metabolism correction activity against metabolic syndrome due to insulin resistance, reduces body weight, BMI, Sr. Triglycerides and blood sugar level. This decreases fatty acid in the storage and adipose tissue which indirectly increase insulin sensitivity in insulin receptor present at skeletal muscles. Due to Ayurvedic treatment, triglycerides are decrease 28.16% and normalised the blood sugar level as they are in prediabetic stage.

Conclusion -

In this case series, Dipana and Pachana Chikitsa is important for Agni Dipana which is responsible for Aama Pachana as it help to improve metabolic rate in hypothyroidism. Anulomana Chikitsa is also essential for balancing the vitiated Vata Dosha specially Apana Vayu. Virechana is detoxification process which is necessary in all metabolic disorder for purification of body by removing toxins and proper endocrine functioning of body. After Virechana, internal medicine is given for proper development and nourishment of Dhatu with maintain Samya Avastha of Dosha-Dhatu-Mala. In this series it is concluded that Ayurvedic treatment is effective in treatment of hypothyroidism and their complications.

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