ORIGINAL RESEARCH PAPER
Volume - 10 | Issue - 02 | February - 2021 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A CLINICAL STUDY OF VIRECHANOTTAR KANCHANARADI YOGA IN THE MANAGEMENT OF GALAGANDA WITH SPECIAL REFERENCE TO HYPOTHYROIDISM ASSOCIATED WITH METABOLIC SYNDROME.

Ayurveda

Vd. Meenakshi Rewadkar Kole* Associate Professor, Kayachikitsa department. R A Podar Ayu Medical College Worli Mumbai- 400018. *Corresponding Author

Vd. Pooja Kulkarni

ABSTRACT

Ayurveda is one of the traditional systems of medicine that practices holistic principles primarily focused on personalized health. Hypothyroidism is one of the emerging health issues in India. It is the most common form of thyroid disorder encountered in clinical practice. It is more common in females than males. It is estimated that about 10.95% people suffer from thyroid diseases i.e., about 42million people suffer from hypothyroidism in India.[1] Thyroid gland controls how body's cell uses energy from food, a process called metabolism. If we don't have enough thyroid hormone body processes slows down and body makes less energy as metabolism becomes sluggish. In order to regularize the metabolism at microcellular level treatment should be *deepana, pachana* and *strotoshodhana*. *Virechana karma* followed by *kanchanaradi yoga* regulating micro metabolism at cellular level was selected in the management of *galaganda* mentioned in *kaphaj nanatmaja vyadhi* with special reference to Hypothyroidism.[2] 30 patients of Hypothyroidism were selected and strictly examined according to the criteria of diagnosis and included in the study. These patients were treated with *shodhan* therapy- *Virechana* along with *poorvakarma* and *paschata karma* followed by *Kanchanaradi Yoga* was given to them in dose of two tablets thrice a day for 2 months. To assess the effect of treatment on symptoms, Wilcoxon matched pairs signed- ranks test was applied. To assess the effect of treatment on haematological parameters before and after treatment within Trial Group of 30 patients, paired 't' test was applied.

KEYWORDS

INTRODUCTION

Ayurveda is one of the traditional systems of medicine that practices holistic principals primarily focused on personalized health. *Ayurveda* is commonly referred as 'science of life' because *'ayu'* is life and *veda* is science or knowledge. Hypothyroidism is one of the emerging health issues in India. It is the most common form of thyroid disorder encountered in clinical practice. It is more common in females than males. It is estimated that about 10.95% people suffer from thyroid diseases i.e. about 42million people suffer from hypothyroidism in India. Thyroid gland controls how body's cell uses energy from food, a process called metabolism. If we don't have enough thyroid hormone body processes slows down and body makes less energy as metabolism becomes sluggish.

Ayurvedic treatment aims at break in pathogenesis of disease and provides very well cure. According to *Ayurveda,* due to intake of *kapha vruddhikar ahara* i.e. intake of heavy, fermented, stale food and stress, there is *jatharagni* and *rasadhatvagni mandya*, which leads to formation of *sama rasa and vikrut kapha nirmiti (Rasa dhatu mala)* with vitiated *gunas* like *Manda, Guru, Snigdha, shita*. This affects the *chayapachaya kriya* and *dhatuparinamana* process and also cause *strotorodha*. *Manda, Guru, Snigdha, Shita guna* of *kapha dosha* and *Rasa dhatu* gets vitiated and result into signs and symptoms of *galaganda* mentioned in *Kaphaj nanatmaja vyadhi* i.e. hypothyroidism like *bharavruddhi* (weight gain), *twacha rukshata* (dry skin), *mandabudditva* (difficulty in concentration), *nidradhikya* (excessive sleep) etc. *Virechana* is one of the *panchakarma* treatment, it is very safe in patients with hypertension, DM and IHD. Other treatment included under *Panchakarma* is contraindicated in metabolic syndrome with IHD and any other complication. It removes vitiated *dosha* from *strotasa* and help in *strotoshodhan*. It does *rasadhatvagni sandhukshana*. It improves basal metabolic rate. Metabolism is corrected through *dhatvagnideepan* at microcellular level.

*KANCHANARADI YOGA"*contain *Kanchanara, Pippali, Vidang, Kutaki* and *Chitraka. Chitraka* itself is symbolized as ' *Agni* ', thus it does *agnisandhukshana* i.e. it increases digestion power of patient. Research has been done on *Kanchanara* that it is the drug which directly stimulates the Thyroid secretions. Pippali and *vidang* are *ushna, tikshna* and *deepan, pachan dravya*. It does *rasa dhatu* and *kapha dosha pachan* and regularize their metabolism. *Kutaki* acts on *Yakrut* i.e liver, it increases *pachakagni* of patient and also does *rasa dhatu*, *kapha dosha pachana.*

Hypothyroidism is one of the disease due to deranged metabolism. Hence taking above in consideration *Virechana karma* followed by *kanchanaradi yoga* regulating micro metabolism at cellular level was selected in the management of *galaganda* mentioned in *kaphaj nanatmaja vyadhi* with special reference to Hypothyroidism.

This study will help reduce dependency of patients on allopathy medicine, will help them reduce their risk of other metabolic disorders like HTN, DM, IHD etc. The course of treatment selected will help patients keep a track of their weight and a healthy life.

Pathophysiology -

1. Hetu - Aharaja hetu eg. Madhura, guru, shita, atidrava etc, *Viharaja hetu* eg. diwaswap, avyayaam, sukhasana etc and *Manasika hetu* eg. Stress.

2. Lakshanas – The symptoms of Galaganda are similar to that of hypothyroidism.

Galaganda	Hypothyroidism
Galadanda	Goitre
Apakti	Poor appetite
Shaitya	Cold intolerance
Mandbuddhita	Difficulty in concentration
Ghargharvaakyata	Hoarseness of voice
Achaitanya	Sluggishness, Loss of energy
Nidradhikya	Excessive sleep
Rukshata	Dry skin
bhaarvruddhi	Weight gain

Samprapti-

Stress due to day to day life competition, lack of exercise, sedentary lifestyle, intake of heavy and stale food

↓

Jathragni mandya

↓

Sama ahararasa

↓

Rasadhatavagni mandya

↓

Samarasa nirmiti and vikrut sama kapha nirmiti

↓

Atisnigdha, pichhila, guru, shita guna vruddhi

↓

Manda guna vruddhi

↓

Sarvang Strotorodh

↓

Chayapachay kriya atimandya, vikrut dhatuparinaman process i.e. Vikruta Rasa, Kapha, Meda Ativruddhi

↓

Strotorodh causes Shotha, bharvruddhi, Achaitanya, Shaitya, mandabuddhita etc.

- *Dosha:Kapha*
- *Dushya: Rasa*[3]
- *Agni: Jatharagni, Rasadhatvagni, Bhutagni*
- *Ama: Jatharagni mandya Janita, Dhatvagnimandya*
- *Janita Srotasa: Rasavaha Srotasa*
- *Srotodusti: Sanga*
- *Adhisthana: amashaya, Rasavaha strotasa, Galaganda granthi*
- *Abhivyakti: Sarva sharira*

MATERIALS AND METHODS –

- Type of study - Prospective, open, randomized clinical study
- Study design – 30 patients of Hypothyroidism were selected and strictly examined according to the criteria of diagnosis and included in the study. Fulfillment of inclusion criteria of selection was observed. These patients were treated with *shodhan* therapy- *Virechana* along with *poorvakarma* and *paschata karma* followed by *Kanchanaradi Yoga* was given to them in dose of two tablets thrice a day for 2 months. Before starting the treatment, patients were observed for every sign and symptom as well as investigations were done as per criteria of assessment. Total treatment therapy was of approximate 70-80 days. For the purpose assessment of symptomatic improvement, a follow up of before *virechana karma*, after *virechana karma* and after that for each 2 weeks for 2 months was kept. Free T3, T4, TSH levels, TPO antibody levels and weight of patient was done before and after *virechana*. CBC, ESR, LFT, RFT, Urine routine and microscopy were done before treatment to rule out any other pathology. The results and observations obtained were discussed.
- *Virechana karma* was done with following *kalpa*, approximate quantity of each drug was as follows -
- *KANCHANARADI YOGA* was given just after completion of *sansarjan krama*. *Kanchanaradi Yog* was prepared under as per classical text reference from *"sharangdhara samhita"*[4]

	Virechana Drugs		Oral Drug contents	
SR NO	DRUG	QUANTITY	DRUG	QUANTITY
1.	TRIPHALA BHARAD	100GM	KANCHANRA	75MG
2.	TRIVRUTTA BHARAD	50GM	PIPPALI	50MG
3.	ARAGWADHMAJJA	50GM	VIDANG	50MG
4.	ERANDA SNEHA	20ML	CHITRAKA	50MG
5.	ABHAYADI MODAK	2	KUTAKI	25MG
6.			SHUDDHA GUGGULU	250MG

Eligibility Criteria –

Inclusion Criteria -

1) Patient having three or more of the criteria given for metabolic syndrome, (NCEP ATP III 2001)
i) CENTRAL OBESITY -
Waist circumference >102cm (M) ;> 88 cm(F)
ii) HYPERTRIGLYCERIDEMIA -
TRIGLYCERIDES≥150mg /dl (between 150mg/dl TO 250 mg/dl)
iii) Low HDL Cholesterol - < 40 mg/dl or Specific medication
iv) Hypertension -
Blood pressure ≥ 130 mm of hg (Systolic) OR ≥ 85 mm of hg (Diastolic) or specific medication.
(Between 130 mm of hg to 150 mm of hg - Systolic)
(Between 85mm of hg to 95 mm of hg - diastolic)
v) Fasting plasma glucose ≥ 100mg /dl or specific medication or previously diagnosed type 2 diabetes. (between 100mg /dl to 160mg/dl)

2) patient fulfilling following criteria –
I) Both sexes.
ii) Age between 15 to 60 year.
iii) Newly diagnosed patient with signs and symptoms of Primary hypothyroidism and *kaphaj nanatmaja vyadhi.*
iv) Patient with k/c/o Primary hypothyroidism on drugs but still having deranged TFT LEVEL (drug resistance).
v) Patient with DM, HTN and IHD without any complication and having deranged TFT LEVEL.
vi)Auto immune thyroid disorder i.e. Hashimoto's thyroiditis (TPO LEVEL FROM 34 IU/ml TO 200 IU/ml)
vii) Patient with history of drug intake like Amidarone, lithium, interferon, alpha and interlukin.

Exclusion Criteria -

1) Pregnant and lactating mother.
2) Patient having myxedematous coma.
3) Patient diagnosed with hypothyroidism due to pituitary dysfunction i.e. secondary hypothyroidism.
4) Congenital hypothyroidism
5) Hypothyroidism due to excessive radiation therapy in treating certain cancer like lymphoma.
6)Patient having malignancy of thyroid gland and any other life threatening diseases.
7) Patient having active PR bleeding, active hemorrhoids, fissure in ano, fistula in ano, and any other *anaharya* patient for *virechana karma.*

PARAMETERS FOR CLINICAL ASSESSMENT -

Assessment was done subjectively as well as objectively.

SUBJECTIVE -

Symptoms of *Kaphaj nanatmaja vyadhi* mentioned in the text or practically observed were assessed at each follow up and presence or absence of them were registered.

All symptoms were graded into 0 to 3 grade scale on the basis of severity to assess the changes and this study in gradation was done at each follow up.

GRADATION OF SYMPTOMS –

These are practically observed in *kaphaj nanatmaja vyadhi* as well as in Primary Hypothyroidism and mostly based on classical *ayurvedic* text.

ALASYA -

Grade0 - No *alasya* (doing work satisfactorily with proper vigor in time)
Grade 1 - Doing work with satisfactorily with late initiation
Grade 2 - Doing work with unsatisfactorily under mental pressure and takes time
Grade 3 - Does not take any initiation and not want to work even after pressure

HAIR LOSS –

Grade 0 - Absent
Grade 1 - Dry hair and occasionally falling.
Grade 2 - Intermittently hair falling on combing.
Grade 3 - Always hair fall without combing.

Lethargy –

Grade 0 - Absent
Grade 1 - Lethargy to new task, slightly diminished activeness.
Grade 2- Lethargy to walk or run or work but performs routine work.
Grade 3 - Lethargy to perform daily routine or housework, all work will be affected but interacts well.

Forgetfulness –

On the basis of retention and recall of both remote and recent memory, score was assigned as follows-
Grade 0 - Both remote and recent memory normal with easy retention and recall
Grade 1 - Both remote and recent memory normal with difficult retention and recall
Grade 2 - Remote memory is impaired but recent memory is intact, difficulty in retention and recall
Grade 3 - Both remote and recent memory are impaired

OBJECTIVE -

FREE T3, T4 AND TSH LEVEL.

Free TFT LEVEL, TPO ANTIBODY LEVEL and WEIGHT was done before and after treatment.

The result which was obtained after completion of study, was the end point of the study.

DIAGNOSTIC CRITERIA -
TSH LEVEL BETWEEN 6uIU/mL TO 20 µIU/mL (BY Chemiluminescent Immuno Assay)

OBSERVATIONS AND RESULTS:

Statistical Analysis of the effect of therapy on symptoms of *Galaganda* under *kapha nanatmaja vyadhi* of Trial Group by Wilcoxon Matched Pairs Signed Rank Test:

1) Alasya: Sum of all signed ranks was 435. The numbers of pairs were 29. 1 pair was excluded from calculations because both values were equal. P value was <0.0001, which was statistically extremely significant.

2)Khalitya: Sum of all signed ranks was 465. The numbers of pairs were 30. P value was <0.0001, which was statistically extremely significant.

3) Daurbalya: Sum of all signed ranks was 465. The numbers of pairs were 30. P value was <0.0001, which was statistically extremely significant.

4) Mandabuddhita: Sum of all signed ranks was 300. The numbers of pairs were 24 pairs were excluded from calculations because both values were equal. P value was <0.0001, which was statistically extremely significant.

To assess the effect of treatment on symptoms which are *Alasya, Khalitya, Daurbalya* and *Mandabuddhita*, within trial group of 30 patients, Wilcoxon matched pairs signed- ranks test was applied.

As P value was < 0.0001, results obtained were extremely significant To assess the effect of treatment on hematological parameters which are Free T3, T4, TSH levels, TPO antibody levels and also weight of patients, before and after treatment within Trial Group of 30 patients, paired 't' test was applied. As P value was < 0.0001, results obtained were extremely significant.

Thus, in the trial group of 30 patients of Hypothyroidism, patients got extremely significant relief in signs as well symptoms, so it is accepted that *Virechanottar Kanchanaradi Yoga* is effective in treating *Galaganda* with special reference to Hypothyroidism associated with metabolic syndrome.

Symptoms Master Chart (3):

Sr num	Alasya		Khalitya		Daurbalya		Mandabuddhita	
	BT	AT	BT	AT	BT	AT	BT	AT
1	2	0	2	1	2	0	1	0
2	2	0	2	1	2	0	1	0
3	0	0	2	0	1	0	0	0
4	2	0	2	1	2	0	0	0
5	1	0	2	0	2	0	1	0
6	2	0	2	0	2	0	0	0
7	2	0	1	0	2	0	1	0
8	2	0	2	1	1	0	2	0
9	2	0	2	0	1	0	1	0
10	2	0	2	0	2	0	1	0
11	2	0	1	0	2	0	1	0
12	2	0	2	0	2	0	1	0
13	1	0	3	0	2	0	2	0
14	1	0	3	0	2	0	1	0
15	2	0	3	0	2	0	2	0
16	2	0	2	0	1	0	2	0
17	2	0	1	0	2	0	2	0
18	2	0	3	0	2	0	1	0
19	2	0	1	0	2	0	1	0
20	2	0	2	0	2	0	1	0
21	1	0	2	0	1	0	2	0
22	1	0	1	0	2	0	2	0
23	1	0	2	0	2	0	1	0
24	2	0	1	0	2	0	2	0
25	2	0	1	0	2	0	2	0
26	2	0	2	0	1	0	2	0
27	2	0	1	0	2	0	1	0
28	1	0	1	0	2	1	1	1
29	2	1	2	0	2	0	1	1
30	2	1	1	0	2	0	1	1

Hematological Master Chart (4):

Sr num	T3		T4		TSH		TPO		WEIGHT	
	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	163	169	12	13.6	6.090	1.69	99	41.78	60	56
2	110	112	8.62	9.5	6.5	2.8	28	28	82	79
3	81	101	7.2	12	13.32	3.20	30	23	68	65
4	128.9	130	7.7	8	8.49	4.3	29	29	84	80
5	109	110	10.32	11	17.6	12.8	25	25	58	56
6	41	60	7.4	7.8	7.25	3.2	40	30	70	67
7	111	115	9.2	10	18.32	15.1	200	100	70	67
8	139	145	9.9	11	6.72	2.4	54	32	57	54
9	147	160	7.09	10	7.09	3.07	41	32	68	65
10	170	180	10.01	10.06	6.08	3.04	37	33	64	61
11	160	170	9	10	8.4	2.02	40	33	70	66
12	154	156	8	8.06	7.02	3.06	32	30	75	71
13	160	170	10.22	11	8.19	3.08	164.3	90	53	51
14	141	160	6.57	12	9.15	2.08	39	33	69	65
15	115	120	7.9	8	8.39	1.08	32	32	65	60
16	130	150	7	10	6.08	2.06	52	36	66	61
17	110	125	6.08	6.50	9.02	1.09	52	33	90	87
18	130	135	5.06	5.09	7.04	2.09	35	28	78	74
19	144	170	8.04	9.08	9.28	3.48	65	32	80	77
20	170	174	10.01	10.08	7.02	4.02	37	31	66	63
21	118	128	9.46	10.12	8.17	4.17	120	25	68	66
22	162	180	7.58	9.06	8.08	3.26	100	28	75	72
23	140	170	7.06	7.08	10.01	3.06	34	29	71	68
24	117.9	110	7.82	8.1	8.74	3.05	64	30	80	77
25	110	113	9.55	10.05	11	4.50	44	27	63	60
26	109	111	10.07	11	9.05	3.50	50	25	59	55
27	111	119	11.05	12	6.15	2.04	41	31	75	72
28	152	155	8.15	9.25	7.46	1.89	74	27	86	83
29	169	175	9.8	10	6.06	1.05	69	33	70	67
30	170	173	10.25	12	7.45	2.55	60	21	65	61

DISCUSSION-

With overall observations; female patients have more incidence of Hypothyroidism. The age group of 41 to 50 yrs. suffer more than the age group of 20-30 years cases. The middle-class family found to have more incidences of Hypothyroidism. The reason for this could be that the persons visiting hospital are more middle class in number, so the data and percentage can differ in broad population. The persons taking mix diet that is veg and non veg were found to have more incidence of Hypothyroidism. Persons with *Kapha-pitta prakriti* and with *Kapha Dosh* prominent had more incidences of Hypothyroidism. The persons living in *Anupa Desha* were found more during the study. The majority of cases had *Manda Agni* with *madhyam Koshtha. Alasya, Khalitya, Daurbalya* and *Mandabuddhita* symptoms are found due to *vitiated Kapha dosha* and mainly due to *Amadushti* caused by *jatharagni* and *rasadhatavagni mandya. Virechana karma* helps for improving metabolism by *Agni Sandukshana. Kanchanradai yoga* is having *sama Kapha* and *rasa pachak* properties helping to reduce increased *samata*. So, our treatment had good potency and also without any side effects as no patient was diagnosed with any side effect on follow ups. During this study it was seen that serum T3 and T4 levels increases and TSH levels decreases significantly. Also, in 23 patients, serum TPO antibody levels were reduced significantly. In 3 patients, levels were within normal range at the beginning, and it remains unchanged after completing study.

In order to regularize the metabolism at microcellular level treatment should be *deepana, pachana* and *strotoshodhana. Panchakarma* treatment eliminates toxins from the body. It helps to remove deep rooted illness and balances the *doshas* and *dhatus.*

Action of *Virechana Karma:*

Virechana is one of the important *shodhana* therapy of *Ayurveda*. It is useful in the disorders of *pitta* associated with *kapha*. It allows our digestive system to evolve day by day. It is very safe in patients with hypertension, DM and IHD. Other treatment included under *Panchakarma* is contraindicated in metabolic syndrome with IHD and any other complication. *Galaganda* under *Kaphaja nanatmaja vyadhi* is mainly caused by *Jathragni, Bhutagni* and *rasadhatavagni mandya*. It is also featured with *strotorodh* at cellular level due to *sama rasa* and *sama kapha*, which further disturb metabolic process i.e. *chayapachay kriya. Virechana* help to remove this embedded *sama kapha* from *strotasa* called *Shodhana karma*. It also results into *agnisandhukshana* at cellular level. Thus, it improves basal metabolic rate, metabolism is corrected through *dhatvagnideepan* at microcellular level. Once metabolism is corrected, further given medicine can be absorbed quickly and give expected results.

Snehana karma is done before *Virechana*

↓

Snehana causes molecular splitting of *doshas* increasing *drava guna* in the molecule

Leading to *doshotklesha* causing increase in the membrane permeability of cell, making it tense

↓

The *virechana dravya* stimulates the membrane in a way that the *Dosha* i.e. toxins get transferred from intracellular to extracellular fluid.

↓

This process removes the vitiated *sama dosha* or *kleda* from cell and increases the capacity of cell and thus opening the receptors and increasing the cell reuptake.

↓

Thus, *Virechana* has the quality of *Srotovishodhana* and *Agni sandukshana,* it will help in destroying the disease from its root.

Action of *Kanchanaradi Yoga:*

Kanchanaradi Yoga contains *Kanchanara, Chitraka, Vidang, Pippali* and *Kutaki*. The root cause of *Galaganda* under *Kaphaj Nanatmaj Vyadhi* is *Agni vikruti*. The *Agni vikruti* then leads to the *vikruti* in *Dhatvagni* and then this causes disturbance in *Chaya-Apachaya* process in body. So, the drugs should act in the following manner:

1) Jatharagni deepan - Chitraka itself is symbolised as *' Agni* '. it contains *katu rasa,* so its action is *agnideepan*. It is having *Tikshna, Ushna Guna* which are similar to the *guna* of *Agni.* Thus, it does *agnisandhukshana* i.e. it increases digestion power of patient. It does *Jatharagni sandhukshana* called *sthula pachana.*

2) Bhutagni sandhukshana – Action of *bhutagni* takes place in both i.e. *sthula* and *sukshma pachana*. All the contents of *Kanchanaradi Yoga,* which are *Kanchanara, Chitraka, Pippali, Vidang* and *Kutaki* does *bhutagni sandhukshana* and helps in *sthula* and *sukshma pachana.*

3)Rasadhatvagni sandhukshana – Kapha is the main *Dosha* of this disease; so, all the drugs having *Kaphahara* properties provides better result. As *Pippali* is *sukshma strotogami*, it specially acts on *rasadhatavgni* and does *rasadhatvagni sandhukshana* called *sukshma pachana. Pippali* and *vidang* both does *rasa dhatu* and *kapha dosha pachana* due to their *katu rasa* and *ushna, tikshna* property ultimately regularize metabolism at cellular level.

4) Kutaki directly acts on *Agni moolasthana* i.e. *Yakrut*. It is *tikta, katu, laghu* in nature having *kapha-pittahara* property. It has properties like *deepana, Yakrutottejaka* and *bhedan.* it increases *pachakagni* of patient and also does *rasa dhatu, kapha dosha pachana*. It does *strotoshodhana* by removing vitiated *kapha dosha* embedded in *strotasa*, this leads to separation of *prakrut pitta* from *kapha* and causes *agnivardhana. Kanchanara* is drug of choice for *Galaganda* as it mainly works on goitrous enlargement i.e. having *Gandamalanashaka prabhava*. Research has been done on *Kanchanara* that it is the drug which directly stimulates the Thyroid gland to increase its hormones and also promotes peripheral conversion of T4 to T3.[5]

CONCLUSION-

The study entitled **"A Clinical Study of *Virechanottar Kanchanaradi yoga* in the management of *Galaganda* with special reference to Hypothyroidism associated with Metabolic syndrome."** was undertaken. Hypothyroidism can be correlated with *Galaganda* under *kaphaj nanatmaja vyadhi* as per *Ayurvedic* concept. Majority of the patients were from the age group 41-50 yrs. The prevalence of Hypothyroidism is more in number of females than males. Most of the patients were from middle class income group and were educated. Incidence of family history of Hypothyroidism was observed in only 09 patients while no such history was noted in 21 patients. It was observed that 22 patients had history of taking medicine for hypothyroidism or any other metabolic diseases. 22 patients were free from any kind of Habits (*Vyasana)*, others had some sort such as taking Tea/Coffee, Smoking, taking Alcohol etc. with maximum having habit of Tea and Coffee. Most of the patients (22) had mixed-diet Habit. Most of the patients included in this study were of *Kapha-Pittaj Prakriti* (19). Most of the patients have *Manda Agni* (18). Most of the patient has *Madhyama Koshtha* (12).21 patients were having *Madhyam Vyayamshakti.* Most of the patients were residing at Anup Desha for a longer period (29). All of the patients were having *Kapha* as a dominant *dosha* in them. Comparison between symptom score was evaluated by Wilcoxon Matched Pairs Signed Rank test and all symptoms showed extremely significant result. Serum T3 and T4 levels showed extremely significant result. TSH and Anti TPO antibody levels were also statistically extremely significant. Weight of the patients also showed extremely significant result. Thus, ***Virechana*** karma followed by ***Kanchanaradi Yoga*** was found to be effective in reducing serum T3, T4, TSH and TPO levels.

REFERENCES –

1. www.ncbi.nlm.nih.gov.in
2. Tripathi B. Charak samhita. Reprinted edition 2012. Varanasi: Chaukhambha Prakashana; Sutrasthana, Maharogadhyaya adhyaya 20/17. vol 1. P. 395.
3. Tripathi B. Charak samhita. Reprinted edition 2012. Varanasi: chaukhambha prakashan; Sutrasthana, Vividhaashitapita 28/09. vol 1. P. 548.
4. Tripathi B. Sharangadhara Samhita. Reprinted edition 2015. Varanasi: Chaukhambha Prakashana; Madhyama khanda, Vatakakalpana adhyaya 7/2 - 5. P. 75.
5. www.iamj.in (Review of ayurvedic drugs acting on hypothyroidism).