

“Correlation Of “Agni” With Serum Bile Acids In Subjects With Sama-Nirama Mala (Stool)”

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Abstract:-

Background:- Agni is an important factor for digestion and metabolism in our body. Ingested food is to be digested, absorbed and assimilated, which is unavoidable for the maintenance of life and is performed by Agni. In Ayurveda, the term “Agni” is used as a key factor responsible for digestion of food and metabolic products

Objectives are to study the correlation of “Agni” with serum bile acids and sama-Nirama mala
Methodology:-Random Selection of clinically normal Subjects followed by assessment of Agni, Prakruti and Koshtha based on Subjective parameters, Observation of Sam - Niram quality of Mala also estimation of bile acids in blood of all the selected participants, Correlation of Subjective and objective parameters related to Agni and bile acids.

Results:- will be drawn from the observations of data

Conclusion:- will be drawn from observations, results and statistical analysis of the study.

Keywords:- Agni, Sama-Nirama Mala, Prakruti, Koshtha

I-Protocol of Ph.D.

INTRODUCTION:-

Ayurveda, aims at prevention and cure of diseases. AcharyaSushruta defined “Aarogya” as equilibrium or balanced state of dosha, agni, dhatu and mala, pleasant state of atma, indriya and mana is healthy state. [1]

Agni is the basic concept of Āyurveda. This Siddhāntaprovides fundamental knowledge for understanding of the theories of Āyurvedaregarding Āharapachana, DhatuUtpatti, VyadhiUtpatti, Ayuparigyanactc. With the help of that particular Agni, the body substances get nourished and can perform their functions normally. This can be understood in the terms of wear and tear phenomena of each body cell. It is quite clear that none of the body cell can do anything without the help of Agni, therefore a Vaidya should always take care of Agni as the Prashamaor Prakopaof Dosha, Dhātuand Mala are dependant on the status of Agni. In other words, it can be said that equilibrium of Doshaetc can be maintained through Agni [2]

Any disturbance in the equilibrium of Dhatusis known as disease and on the other hand the state of their equilibrium is health. [3] According to various Samhitas “Agnimandya” is the basic cause for pathogenesis of diseases.[4]

Agni is the factor responsible for any kind of transformation. It is a known fact that at every moment of time, multiple procedures of transformations take place in the body. These may be

biochemical or biophysical or any other type of bio-transformations. Due to these constant transformation procedures, body grows, develops and lastly destroys too. [5]

During the diseased state of the body there are some pathological changes happens either functional or structural. Thus the principle of Agni becomes vital as either the healthy or the diseased state can only be understood with understanding of changes and according to Āyurvedic principles, all these procedures can be possible with Agni only.

Agni is an important factor for digestion and metabolism in our body. Ingested food is to be digested, absorbed and assimilated, which is unavoidable for the maintenance of life and is performed by Agni. In Ayurveda, the term “Agni” is used as a key factor responsible for digestion of food and metabolic products.

The concept of Dosha-Dhatu-Mala is important to understand the body functions. *Malas* are the metabolic end products those are to be excreted. Malas are divided into two major types that is Sharirika Mala (body wastes) and Dhatu Mala (metabolic wastes). Sharirika Mala is further classified into three types that is Mutra (urine), Purisha (stool), and Sweda (sweat), and Dhatu Malas are further classified into seven types [6]. Both Purisha and Mutra are formed from the food. [7] After digestion, the Sarabhaga (nutrient portion) gets absorbed and the remaining undigested part becomes solid and that is called as Purisha. If Malas are not excreted from the body, the metabolic process will be impaired and this will ultimately lead to the formation of malformed tissues and diseases. Purisha Pariksha (stool examination) is included in Ashtasthana Pariksha. [8] Examination of stool in Ayurvedic texts is limited mainly up to the examination of physical characteristics such as colour, quantity, odour, froth, and consistency. Besides these, a specialized technique of stool examination, i.e., Jala Nimajjana Purisha Pariksha has been described to detect the presence of Ama thereby inferring the status of Agni in the body [9]. Related aspects have been reported in GBD study [10-12]. Bawankule et al reported on clinical profile of patients with hepatic encephalopathy in cirrhosis of liver [13]. Related studies were reported by Kirnake et al [14], Raja et al [15] and Dangore et al [16].

As "Agni" is the key factor in health as well as in disease state, it is mandatory for vaidya to understand the concept and status of “Agni”, hence assessment of Agni is important to know the health status of the person. Subjective parameters for assessment of Agni are mentioned in all texts, in present study objective criterias will be brought in the purview of quality of Agni. [17-18]

Need of study:-

Jatharagni is most important and all other (Dhatwagni and Bhutagni) agnis depend on it. If it is balanced, it is called as samagni and results in formation of proper dhatu and body building. The abnormal agni i.e. tikshanagni, due to its hyperactivity results in digestion of dhatus. Vishmagagni (Irregular) results in irregular digestion and improper formation of dhatus, whereas mandagni results in partial digestion and production of “Aam” a main cause of sickness.

Thus deciding the quality (Sama, Vishama, Tikshana and Manda) of one’s agni, which affects digestion, absorption, assimilation and metabolism, is of prime importance, to assess healthy and unhealthy state. Subjective parameters for assessment of agni are mentioned in classical text along with the saam (sinks in water) and niraam (floats on water) quality of stool, hence study of bile acid as a marker of “Agni” in rakta (blood) seems to be of importance and utmost need as chemical/biochemical parameter for the same.

Aim and Objectives:

a): Aim of study : Correlation of “Agni” with serum bile acids and sama-Nirama mala.

b): Objectives of study :

- 1) To assess the status of agni, prakruti, koshtha and Sama-nirama mala in healthy volunteers.
- 2) To validate the interrelationship between agni, prakruti, koshtha and Sama-nirama mala.
- 3) To assess the quantum of bile acids in rakta (blood).

4) To assess the effect of Hingwashtakchurna on agni and serum bile acids in volunteers with Sama mala.

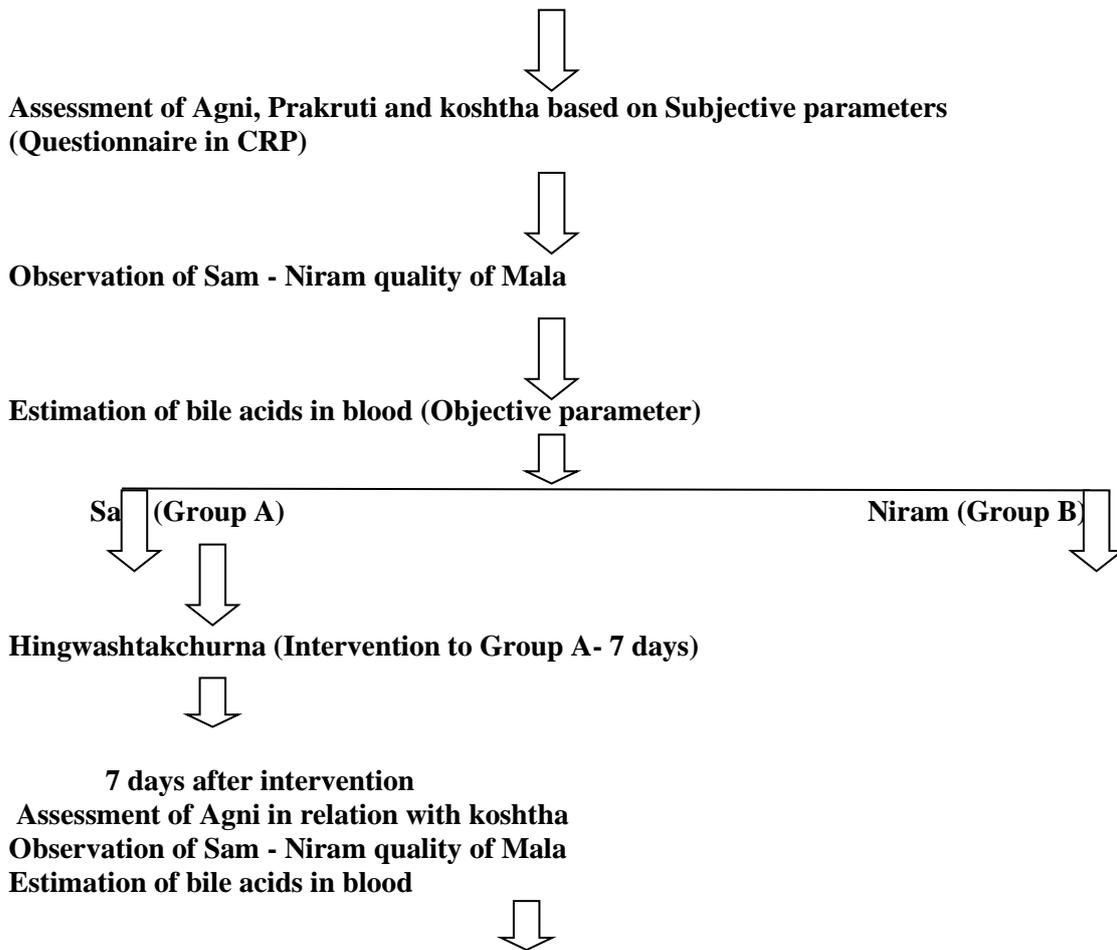
Material and Methods:-

Materials:

- 1) **Participants:-** Healthy Subjects(Clinically normal) will be randomly selected from the MGACH&RC
- 2) **Hingwashtakchurna :-**2gm bid, with 5 ml ghee (with meals)
- 3) **Case Record Proforma:-** Case Record Proforma will be prepared for assessment of Agni, Prakruti and koshtha (attached in annexure)

Methodology:-

Study plan:- Random Selection of clinically normal Subjects



Correlation of Subjective and objective parameters related to agni and bile acids

a) **Definition:- Case:-** Healthy volunteers (Clinically normal) of either sex between age group 20-40 yrs

b) **Source of study:** Mahatma Gandhi Ayurved College Hospital and Research Centre

c) **Study design-** Open, single arm study

d) **Type of study-** Observational followed by Intervention

e) **Sample size :** As no such type of previous study was done, pilot study will be performed and sample size will be determined.

f) **Grouping:-**Prakruti, Agni and Koshtaparikshanof all the selected participants will be done on the basis of subjective parameters (Case Report Proforma). Then sama and niramaparikshan of mala will be done. Accordingly all the participants will be classified in two groups as sama and nirama.

- 1) GroupA –Subjects with **Sama mala**
- 2) GroupB -Subjects with **Nirama mala**

g) Inclusion criteria:Healthy volunteers (clinically normal) of either sex between age group 20-40 yrs will be selected

h)Exclusion criteria:

- A known case of any surgical or medical, major or minor illness.
- Subjects with addiction of alcohol, tobacco, smoking,kharra etc.
- Pregnantwoman and lactating mothers
- Subjects performing night duty shifts

i) Dosage:Hingwashtakchurna- 2gm, twice a day with 5ml ghee, with meals (To the subjects with **Sama mala - Group A only**)

j) Study duration: 7 days

k) Routine investigations:

- 1) Assessment of Prakruti, Agni and kosktha (Through CRF)
- 2) Stool- routine examination
- 3) Sama and niramapariksha of mala according to Ayurved

l) Specific investigations:

- 1) Group A :- Before and after intervention, estimation of Bile acids in blood
- 2) Group B :- Estimation of Bile acids in blood

m) AssessmentCriteria:-

- 1) Prakruti, Agni andKoshthaPariksha
- 2) Sama and nirama mala parikshan
- 3) Bile acidsin blood.

Bile acids in serum will be detected and estimated by TLC/HPTLC/HPLC.

Population	Healthy volunteers (Clinically normal) of either sex between age group 20-40 yrs
Intervention	Hingwashtakchurna (Group A)
Comparison	Subjects of group A will be compared on assessment criterias before and after intervention 1) Questionnaire for Prakruti, Agni, Kosktha assessment 2) Sama and nirama mala parikshan 3) Quantum of Bile acids in blood.
Outcome	<ul style="list-style-type: none"> • Agni vrudhi in the subjects intervened • Correlation between Subjective and objective parameters of agni

Intervention Table:

Group	A (Intervention group - Sam)	B
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Sample size	Will be decided after pilot study	Will be decided after pilot study
Intervention	Hingwashtakchurna	No intervention
Dose	2gm –with ghee - with meals	-
Duration	7 days	
Follow up period	After 7 days of completion of intervention	

7) Methods of statistical analysis: Z test, Chi square test, wilcoxon sign rank test.

9. **Data collection tools and detail process:-**Data about prakruti, agni and koshtha will be collected through information collected in the form of “Case Report Proforma”. Data about bile acid and salt are collected through observations of stool and blood sample.

Results: According to the data obtained by subjective parameters (Questionnaire), Sama and nirama mala parikshan, blood observations will be obtained and results will be drawn.

Discussion:- Discussion will be done on the basis of observations and results of individual groups and comparative statistical analysis. A number of articles related to *Agni, Mala* and related conditions available in this region will be reviewed again.

Scope and limitations of the study-

- **Scope of study:-**It paves the way for understanding the quality of *Agni*, by serum bile acids.
- **Limitations of study:-**It provides only the outline of chemical/biochemical correlation of blood and *SamaNirama Mala* with *Agni*.

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