

Ayurveda Fundamental Principle “PRAKRUTI “, Vata, Pitta, Kapha, status measurement by Paper-chemical CHROMATOGRAPHY technique

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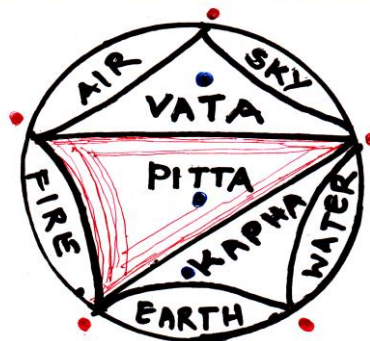
Abstract Prakruti has a great importance in Ayurveda medical science and Prakruti is considered to be the first and foremost base principle of Ayurveda. The Prakruti of a new born is fixed , just after coming out from mother’s womb. All earthly and environmental energies and forces exposed in baby body at the time present and fixes this all with his her first inhalation of atmospheric air. With The start of respiration all functions of body starts including metabolic activities. According to Ayurveda, exposure of earthly energies and environmental properties fixes a stable properties of Vata, Pitta and Kapha ratio in the body which never changes in the whole life. The fixation of Prakruti and its determination is difficult to know. By paper CHROMATOGRAPHY Chemical technology, Prakruti of any individual can be determined. Ayurveda diagnosis, treatment and management is bases on the determination of Prakruti for exact , correct treatment planning. This Chromatography [9,10] technology will open the new doors for new research gate in Ayurveda Diagnosis field. [5,6,8,8,9]

Keyword; Prakruti, Ayurveda Prakruti, Ayurveda Principle Prakruti, Prakruti detection,, pRakruti detection and measurement, status quantification of prakruti

I. INTRODUCTION:- Prakruti Finding in Ayurveda

In Ayurveda Prakruti is an essential part of the science. Ayurveda is based on SANKHYA Philosophy,[2,3] where Prakruti and Purush is mainly considered. Vata, Pitta and Kapha are three basic cardinal principles on which, every action of Ayurveda is bases. All these three cardinals fix Prakruti at the time of just birth, which remains in similar fixed status ratio and never changes in life time. Any changes in this ratio cause deviation of normal health and produces sickness.[5,9,10,11]

**PANCHAMAHA BHUT Exposure
 fixes PRAKRUTI after Birth**



**AIR AND SKY Forms "VATA"
 FIRE Forms "PITTA"
 EARTH-WATER Forms "KAPHA"**

Fig-1 ; Just after birth, Panchmahabhutas properties makes from air and sky combination VATA, Fire cum Heat combination Pitta and Water and Earth combination exposes rapidly in body

I.1 At the time of birth, fixation of Prakruti according to Ayurveda Philosophy

Earthly along with Universal properties, like Gravitation, Magnetism, sounds and ultrasounds, Vibrations and waves, hot and cold temperature, Atmospheric pressure,

Air and environmental visible and invisible properties, Humidity, Water and earthly matters, beta gamma and unknown rays, Radiations and many known and unknown factors existed in this universe, these all properties expose and assimilate in human body just after birth and separated from umbilical cord. Ayurveda says that Vata is formed from the combination of Air and Sky, Pitta is a combination of Fire and Heat and Kapha is a combination of Water and Earth. Just after the birth of child all earthly and universal properties energies expose in to the child and just with the first respiration, all senses activated of the body. Keen observation by Ayurveda Practitioners can give clues of Prakruti of an individual. Few Ayurveda masters have given detailed pictures, characteristics and features of the Vata Prakruti, Pitta Prakruti and Kapha Prakruti males and females mentioned in their classical books. [5,6,7,8]

II. Assessment of Prakruti an essential requirement for effective Ayurveda management support in sickness

Prakruti assessment of an individual is very difficult to know. The only way is depicted by the Ayurveda experts after their long time consumed observations describe the body get-up, body built-up, face built, Hair colours, skin colours and textures, body specific characteristics, speech, walking and physical strength, mental behaviour, food habits, likes and dislikes, sexual behaviour and other features mentioned to determine. To get to know the Prakruti, a questionnaire is prepared and formatted based on these information's lines, all characteristics mentioned in the classical books. After answering the format questions, a scrutiny of answer can give clue of Prakruti in single or in combination. Once Prakruti is fixed at the time of birth, it is never changes in its ratio and will remain similar till life. For Ayurveda Diagnosis, treatment and management of any physical and mental ailments, Prakruti diagnosis is very essential in view of effective impressive disease management. [1,2,3,4]

II.1 Chromatography Separation Test ; Individual Venous Blood required for PRAKRUTI determination

This Prakruti test is developed in laboratory. A small amount of un-centrifuged venous blood is required for this test. The fresh blood is used immediately after collection. Human Blood contains Fat, Protein, Carbohydrate, Minerals, Vitamin, Water, waste products and gases with other matters. When Blood, is mixed by reagents, chemicals, solvents, diluents, buffer solution etc. in a test tube, all reacts on the properties of blood and chemical changes takes place. Paper Chromatography separated chemical reaction chrome and colour in different layers of the blood chemical mixture solution with their special colour identity. Vata, Pitta, Kapha and control produces their special color identity, which gives an amount of their presence in body after measurement.

III. Methodology; Chromatography Test Requirements of Laboratory

Performing this test, the laboratory should be well equipped by the below given glassware's along with Solvents, diluents, Reagents and other supporting essentials. The following list will show the need of laboratory for this test.

- 1- Laboratory space with dark room and essential equipments
- 2- small test tubes of various sizes
- 3- test tube stabs
- 4- specially made paper holder size L 40 mm x W 14 mm x H 8 mm
- 5- spirit level meter
- 6- Glass sheet 8 mm thick for base
- 7- Ultraviolet Light lamp
- 8- Multi-Colour showering Lamp
- 9- Micro-pipette of various volume
- 10- Micropipette stand
- 11- White Filter paper stripe size L 24 mm x W 10 mm x H 1.3 mm
- 12- Paper cutter of best quality
- 13- Reagents
- 14- Solvents
- 15- Diluents
- 16- Laboratory Glassware's
- 17- Water sources
- 18- Working Space
- 19- UV & IR Light Sources
- 20- 2 ml Syringes
- 21- Blood collection Tube
- 22- E.D.T.A. Anti-coagulant chemical
- 23- Digital Microscope
- 24- Measuring scales
- 25- Digital Venial Calliper
- 26- Graph papers
- 27- Lamination machine, Lamination Pouch
- 28- Room temperature and Humidity thermometer
- 29- other essential requirements
- 30- Graph papers
- 31- Scissors, paper cutting tools
- 32- Hot Air dryer
- 33- pH Meter
- 34- Magnifying Glass of various sizes [2]



Fig- 2 ; Chromatography Laboratory set-up ; showing Microscopes, micropipettes. Colorimeter, pH meter, invented Holders, chemicals and other essential items.

III.2 Preparation before performing Chromatography Prakruti test

This Chromatograph test is based on the individual blood, who desires for knowing his individual PRAKRUTI aiming at health purposes. Prakruti test is mainly based on the hidden properties of the blood. Therefore for these analysis special conditions are imposed on the individual for procuring specific modified blood. The specific condition for blood collections are given as following;

1. Selected individual should have four days fast without taking any food, only water can be taken. After four days, on fifth day in morning, blood should be taken for test

or if this is not possible for wishing individual then second option is given below

2. Seven days live on fruit juice, after this next seven days live on fruits and again after seven days live on milk or butter milk, after completion of three weeks / 21 days of this kind of fast on 22nd days blood should be taken in morning for test

or if this is not possible for wishing individual then third option is given below

3. 60 days Dugdh-kalp or Takra kalp without any salt and medication, after 61 days blood is taken

or if this is not possible for wishing individual then fourth option is given below

4. 120 days live on without salt and spices mixed food with "Ayurveda Blood purifier remedies" followed by strict vegetarian diet, on 121 days blood is taken for test.

5- Above all, PANCHAKARMA, the Ayurveda body detoxification and cleaning classical process with purva karma and pashchat karma, collect blood after panchakarma

Above mentioned any one condition should be followed by the wishing individual, who wants to know their Prakruti. If these conditions are not followed and by mistake blood is tested, the test result will give DOSHA or TRIDOSHA status and not PRAKRUTI.

III.3 Chemical, Solvents Indicator, Diluents, Reagents regarding

Few solvents, diluents and reagents are prepared in our own established laboratory.[1] Specially designed Chromatography Paper-Holder with Specially designed Test Tubes are manufactured at our own established workshop. Other material used in this test has been purchased from open market. This is a self-financed project. This technology is not patented; therefore essential information is being shared in this research paper.

III.4 Mixing of Blood with chemical substances and pouring in Chromatography Holder

Chromatography is a sensitive test, therefore precautions should be taken in every step to avoid any mistakes. Step by step action is a best solution, so this should be followed. Before starting test all chemicals, indicator, reagents, solvent, diluents should keep ready to use position in selves. Everything which is involved in this test should be in immediate reach stage. Test table should be cleaned and its surface should be smooth and plain, corrected by spirit level.

Step-1 ; Dry empty four specially designed small test tube is taken and put in test tube stands, marking C for control, V for Vata, P for pitta, K for Kapha

Step-2 ; with the help of micropipette 40 micro ml blood is taken and after this pour in the all four small test tubes.

Step-3 ; Equivalent quantity of solvents, diluents are poured in all four test tubes

Step-4 ; CONTROL test tube is separated and is not mixed with any Reagents specially for test of Vata pitta and Kapha as Nitrate, Sodium and Phosphate accordingly.[1]

Step-5 ; Pour and mix adequate quantity of Nitrite reagent in Vata test tube

Step-6 ; Pour and mix adequate quantity of Sodium reagent in Pitta test tube

Step-7 ; Pour and mix adequate quantity of Phosphate reagent in Kapha test tube

All test tubes must shake gentle for 1 - 2 minutes.

Earlier to it, fix filter paper inside the specially designed Chromatography test Holder. Mark Holder C,V,P,K at the tail end. All test holder should keep in the flat position on a glass sheet properly balanced its surface by Sprit level. Any kind of tilt is avoided.

Pour carefully test tube mixture solution at the head side of the Holder including edge of filter paper, so that filter paper absorbs liquid and spread it at its own absorption speed. An Ultraviolet light should be showered on the holder. All lights of the laboratory should be closed except ultraviolet.



Fig- 3 ; Measuring instruments, Digital Vernier Caliper, Scale and specially designed simple millimeter scales, for measuring color-chromato level size

Leave this all for 5 hours. Laboratory Room temperature should be noted with humidity. After 5 hours, all impregnated strips should out from holder and keep these all inside a warm chamber for drying well and settle chroma and color in between 30 c to 32 c degree temperature. After it, paste the strips safely and carefully on a graph paper sheet with glue and transparent tape. When well dried strips obtained, fix them on a graph paper marked with the measurement in millimetres. Sticks all strip in 1 to 2 cm gap and after that laminate them by lamination machine in A4 size. Every Graph paper should be marked C for Controle, V for Vata, P for Pitta and K for Kapha to avoid any mistake.[9,10]



Fig- 4 ; Dried stripes of Chromatograph, showing with measuring scale in millimeter, Observe color-chroma pigmented on the strip and differentiate minutely each one. Vata level is above than Control and Pitta is lowest and Kapha is in middle level. In Vata and Kapha stripes three levels are seen, while in Pitta two levels.

III.4 Color Observation, Marking, and measuring of strips chroma and color levels on Laminated Graph Sheet

Chromatographed paper Strips fixed on Graph pper in sequence should be evaluated for PRAKRUTI detection, with the help of measuring tools. In these neasuring tools digital Vernier Caliper or Laser Distance Measuring meter are the best because bothh measures up to 2 digits after decimal.

Appropriate markings of chroma pigmented level's impressed lines on paper should be done in millimetres by segregating each and every lines in different color sections. Note down every reading of Controle , Vata, Pitta, Kapha stripes. Mark lines and writes nomenclature on Laminated graph paper sheet for clarity.

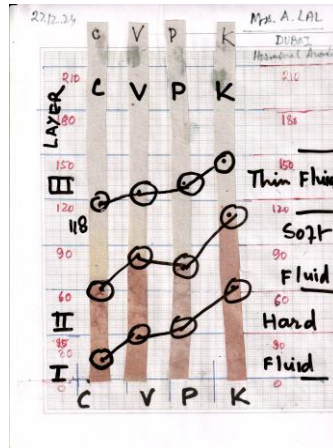


Fig- 5 ; Chromatograph Paper stripes arranged in sequence on Graph paper. After sticking with glue and transparent tape, laminate the graph sheet with lamination after essential markings. After that, all stripes should be measured by scale in layer wise.

In Chromatography , keen observation of colors are most important and essential. Naked eyes, use of magnifying Glass and Digital Microscopes and color showering lamps are helpful for better color recognition purpose. A Dark room reading under ultraviolet and Infrared light provides best readings.

III.5 Interpretation and report of chromatography examination with final results

After measurement of all strip's indicated level values, interpretation is done on the basis of these obtained values. Measuring is an important part of the test. Chromatography test provides few colours .

- 1- In General, beginning part of chroma is seen almost short in length compare to others due to containing heavy molecules of blood Proteins, Carbohydrates and Fats, which inhibits the progress speed of test- liquide inside the paper holder. Up to a certain level this heavy material molecules inhibits their progress, after that the next light liquid molecules come forward with its thinner capacity and thus second and more level lines in progresses. Finally chromatograph completes after soaking all liquids.
- 2- Fluid is soft than earlier level, therefore the remain soft fluid ascends up to second and more level. It stays its own progress up to its thinness followed by next.
- 3- The third level fluid is much thinner than others. Therefore it spreads up to its maximums height, bases on thinness. This is the last stage progress of the entire test fluid.

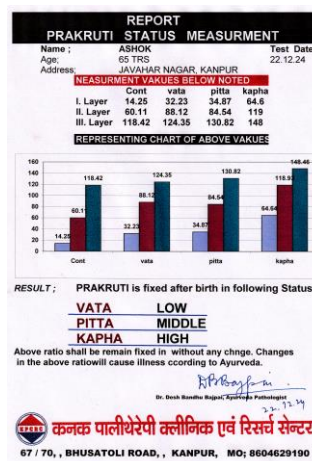


Fig - 6; Chromatography status printed Report prepare after measuring and collection of data, feuded in Excel programming . Data values and Chart shows clarity of each feeded values.

The colors of the fluid occurs due to Blood cells, melanin, reaction of reagents, solvents, diluents, indicator chemical actions on blood containing protein, carbohydrate, fat, minerals, vitamin and serum properties. Under microscopic examination of strips, red blood cells are seen in base or 1st part , in second level light red, bron, pink, green, yellow are seen. In third level segnent of strip white, light green, light yellow color is seen. The measured values should be

noted and transfer in report format, especially programmed for this purpose. After feeding all data in format, a printable report is obtained. [9,10]

IV. CONCLUSION

In this research paper, Chromatographic technique is used for status measurement of Ayurveda PRAKRUTI, for which no other ways to obtain the level in the body. The only way is the description of body features, body get-up, habits and intellectual and physical body identification of body built and functions. Recognition of these features are not easy to access and may confuse due to unknown physiological internal effects. Chromatographic analysis is based on the Blood and its chemical constituents which reacts with the identified chemicals and reagents, buffer solutions, diluents interreaction, which reflects changes in the entire solutions and Blood chemistry. Thus newly invented paper chromatography gives chemicals reactions chroma levels. After analysing these chroma levels results can be interpreted. Thus PRAKRUTI can be assessed easily with perfection and certainty.

ACKNOWLEDGEMENT

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