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Prakruti Evaluation as an essential protocol and its applicability across spectrum of physical and mental health, fostering globalization and acceptance of Ayurveda as a medical system of universal recognition

Dr Nitin Chaube
Health Beyond Healing Private LImited, Chennai, Tamil Nadu, India & Ayurveda Health Iceland, Reykjavik, Iceland

Abstract -
Ayurveda looks at the human body as a unique concept called “prakriti”, which is close to modern science’s exploration of biomes.

It is a treatment protocol definition and monitoring tool across a set of 7 parameters in all which go on to define possibilities of genetic make up.

This Paper discusses these possibilities of evaluation of prakruti across a range of medical conditions somatic, and psychosomatic to assess outcomes to the extremes of incurability.

It plays vital and critical roles in management of conditions like - Infantile Type-I-DM, liver cirrhosis, IBD, post COVID, cancers, psychiatric and neurological conditions and their manifestations.

The method of evaluation consists of using questionnaires available on the internet, juxtaposed against a scale spanning 121 years of vedic life span, considering different srotas and mapping the data generated out of this evaluation as graphs and tables.

The observations have spanned over 15 years of observation across more than 500 patients, defining primary, secondary and tertiary loci of medical condition and their progression.

These observations conclude, age, geography and other factors changing, prakriti of the individual keeps changing, though primary prakriti remains a dynamic continuum.

Fine evaluation of srotas allows focus on progress and outcomes of treatment regimen.

Summarizing these observations, there is a noted improvement between 15% to 40% for timeframes and outcomes, and a 100% on protocols, enabling Prakruti evaluation as a standard practice. In addition to it, a graphical presentation improves the protocol design of Ayurveda treatments, and fosters globalization of Ayurveda along an acceptable standard.

Known Definition of Prakruti - Prakriti stands for nature of the body in terms of dosha and is decided at the time of conception according to the predominance of dosha. It does not change during the whole life and is responsible for the physical and mental characteristics of an individual.

This concept fails the idea of age related prakritik dominance which states that as of age prakruti of an individual shows different doshas in dominance. Why the known concept seems to be untrue is because if one of the dosha's dominates then how can a different dosha become a basic prakruti of a person. It has to be dynamic. More so the birth Prakruti itself right from conception has a variation than expected, based on the known 7 parameters which govern the prakruti information.

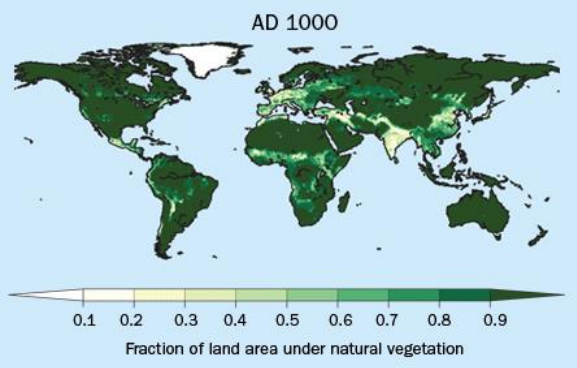

Fig - 1[23] - Vegetation on earth in 1000 AD

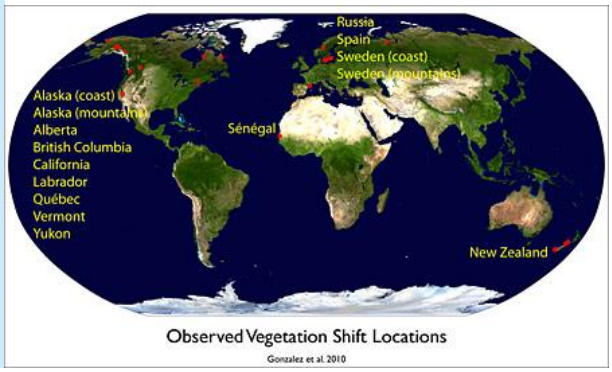

Fig - 2 [8] - Observed vegetation shift as on date

The understanding of prakriti is integral to Ayurveda diagnosis and Samhita. The references and relevance to the science underlying is close to what is discussed today as comparisons of anthropological derivations, their relations with biomes and, vulnerability of the ecosystems with climate change.

This sounds as an oxymoron in expression; however this is elucidated in the Samhita beautifully in the sections on lifestyle and food, vegetation, seasonal behavior etc. [24][25][26][27]

When put to rationale the texts suggest that with evolution of time, there will be a drift in geography, thus seasons, weather, food types, climate; which will impact distribution of metals, non-metals and other micro-chemical factors, and hence affect the physiological functions and adaptability to the changes. This change is widely discussed as a subject of interest in biomic derivations of modern science.

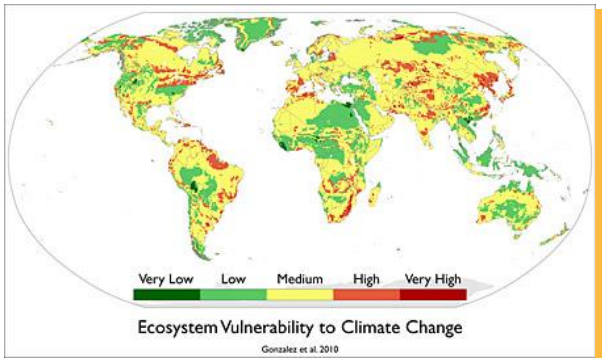

Fig - 3 [8] - Ecosystem and climate change

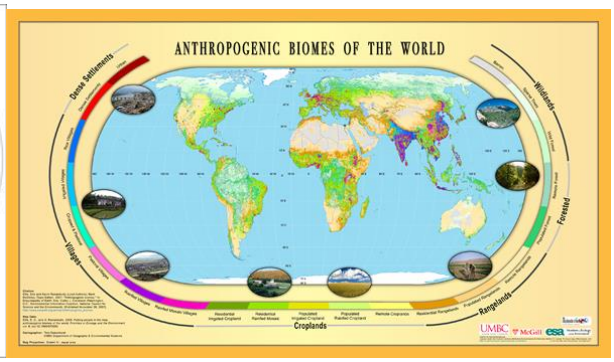

Fig - 4 [6] - Ecosystem and climate change

As of the basic idea of conjugation the parental prakruti's merge with each other to bring about a new being, Hence, the unborn has the acquired characteristics based on the prakruti of the parents. This is similar to chromosomal genetic transfer as elucidated in modern sciences laboratory studies.

The observations of modern science are lesser known and some of these as in reference from an article published in The Nature has evaluated female reproductive behavior and fertility across seasons. [28]

Seasons are not limited to a geography, but across geography's they present a variability leading up to, an understanding, extrapolated across geographies, as mentioned in the Samhita in a linear corroboration, establishes the Ayurveda idea of significance of prakriti as an essential in understanding human disease behavior, and why even while deviations are possible, the integrity of Samhit's remains unchallenged to the course of being guiding principles.

This also implies that not just the macrocosm of biomes, geography and geology, but the microcosm of human physiology, biochemistry and genetics, have been equally affected over the years, and therefore deviations of prakriti will and can be ascertained not by understanding it as a static derivation at birth, but as a dynamic constant of age incorporating variable behavioral possibilities.

The analysis also therefore needs to look deeper, and as the samhita have stated a distribution of dosha's laterally and vertically across the body, as principle seats of certain dosha's; they also thus allow evaluation of variable presentations of different srotas, which are no different from organ systems of modern science in the same prakritik realm of understanding.

The known concept looks to map the modern version of genetics; however, the functional idea of genes fails the definition, as also the known fact that throughout life a number of genetic mutations keep happening, during the aging process, many of which being recessive do not show up. This idea matches dynamic prakruti understanding or a dynamic definition of prakruti; and explains better even the silent mutations which may go unnoticed in a modern sciences laboratory, but a fine print study of prakruti changes can be ascertained on a daily basis to look into the changes progressive or regressive and forecast a future morpho-physiological life.

This does not mean to say that what is written in Samhita is incorrect or inappropriate; however, wisdom of acquired knowledge does question probabilities, which samhita underline stating that prakruti will change with time, geography and other factors combined.

The answer to this confusion between the assumption of a static prakruti and dynamic prakruti as I put forth, lies in one of the factors, which can be assumed as constant universally on this planet which is Time, or in this reference called to be Age.

Age is a constant dynamic number which does not change unlike geography or food type or other factors which influence prakruti, if a location or nature of job or anything changes. Also it is an involuntary change and hence can be used for all comparisons.

This principle constitutes the idea of time scaling, based on which we have developed a software which uses age as a constant to map prakruti innately and in depth physiologically to map systematic variations across any age and time frame.

How does it work?- The above proposition is definitely different from what the translations of the verses mean to suggest. This needs further elaboration. The discussion hereforthe will look to discuss and establish the dynamic aspect which this paper elucidates.

Let us first look at what constitutes Prakruti as influencing factors. Prakruti is influenced by primarily 7 factors which include - Geography, Seasons and Climate, Age, Social influence, Demography, Travel and Movements, and Personal Behaviour.

This clearly lays down that more than just the individual it is a series of factors natural and social which go on to influence the constitution of the body.

Prakruti analysis is actually a mathematical complex. The basic concept of Ayurveda says that anything living or non-living is made up of 5 elements - Kshiti, Jal, Pavak, Gagan, Sameer.
It also states that anything in the microcosm of macrocosm is constituted by these 5 elements only, including subjects that are morphological or abstract.

If 7 factors influence an 8th subject and each of these is constituted by the same 5 elements the probabilities of number of variables and a total number of permutations and combinations possible is defined mathematically as -

let the 8th subject be constant with its own 2 possibilities. so the number of possible effects will be further a calculation between the derived number of probabilities and permutations and combinations. Further this is multiplied by another factor of a similar probabilities of a second individual giving the number of probabilities and permutations and combinations for a newborn.

The mix would create a mathematical problem something like as follows -

PM1 to PM5 in variable ratios form D1 to D6 where PMstands for Panch Mahabhoot and D for either sharira or manas dosha
D1 to D6 in variable ratios combines to form F1 to F7 each having D1 to D5 where F stands for one of the 7 Factors
And M1 and M2 also has D1 to D6 Where M stands for Male
F1 to F7 also combine with M1 and M2 and F1 and F2 to bring up an additive impact where F stands for Female
M1 and M2 make M
F1 and F2 make F
M and F combine in 4 different ways to make Z of any 4 types where Z stands for a zygote
Hence what is the maximum number of probabilities?
What are the maximum number of permutations and combinations considering M1 as "yes" and M2 as "no" and similarly F1 as "yes" and F2 as "no" (not excluding probabilities of NO existing)
And what are the maximum number of combinations possible leading up to M1 and M2; or F1 and F2

This is actually the central theme on which the software has been developed and looks to be upgraded in further advanced versions.

When we look at the complex of prakruti with the prism of these 7 factors including - Age, Geography, Time, Food, Social relationships, Work and Travel, and Personal behavior, and add the Individual, the octet thus derived in ideal conditions is a mortal. The characteristics of the ideal mortal are if taken to be rigid, may probably draw a carbon structure which is not fragile. The structure so derived will be complex, with a series of complex presentations and that would mean any deviation will alter the structure and will therefore also have a functional deviation.

In all terms so the deviation from the ideal is a gap and that gap has been termed as a vikruti or disease / disorder.

The logical reasoning behind the software - Any comparison works on a standard and any variables around that standard. If we look across the spectrum of 7 factors influencing the 8th factor, the only factor which does not change anywhere on the planet at any time and is a constant is Age. Age however, though a physical constant is a numerical dynamic. Hence, the first major point to note is - **a dynamic constant.**

Since it is a dynamic constant it will have a range and across the range is a spectrum on which certain attributes will keep changing from one end of the spectrum to the other.

This change is linear and hence can be put to a scaling with measured equalled milestones. This is termed as deriving a scale, or called as scaling. This scaling is not to be interpreted with anatomical or physiological manifestation of formation of scales.

Since this is a scale it will have equal milestones across the spectrum.

In the vedic constant it is said that human life is across 121 years. Physiologically it is said that there are 5 dominant dosha conditions of physical attributes of Vata, Pitta and Kapha and Similarly psychological attributes of Satva, Rajas and Tamas; to be seen as -

Kapha- KaphaPitta - Pitta - Pitta Vata - Vata, and along the same scale -
Satva-SatvaRajas - Rajas - Rajo Tamas - Tamas.

Other combinations of doshas are intermittent and phasic between this dominant 5 milestone scale. Assuming milestones as constants it makes for 24.2 years as one phase in 121 years.

There is another idea of **Reverse TIme Scaling.** This is best to be understood for embryological studies - scaling 280 days of human embryonic life against 121 years of mortal life in the reverse direction. The similes are with stark numerical multiples to be understood. This would in physiological assumptions mean a slowing down of metabolic rate in mortal life and across the embryonic development spectrum from zero to birth days.

Basal metabolic rate is also a reflection of the mitotic activity of the cells and the differentiative capabilities of the physiological system, supporting the hypothesis of division of labor across the anthropological and embryological studies and derivations of evolution of life. It is also a known established fact that the basal metabolic rate is much higher in organisms of lesser number of cells and tissues than in those of greater multicellularity. This also finds a relative relationship with the lifespan of the organism.

Thus if this is to be appropriately understood there is an expected metabolic rate associated with the transgression of the dosha combinations across the time span. When there is a change to the same, there is a change to the basal rate as well and the deviation in the thermodynamic equilibrium is, therefore on the understanding of Ayurveda model of disease prevalence, in association with all the 7 factors, exaggerating or diminishing one or more of the combinations is, a likely impact on the life span of the being, along with, also, variations to his morphological appearances.

How to read the time scaling and its visible metric in correlation and juxtaposition of other clinical features?

Time scale or any other scale becomes relevant when it is put to a test. In case of a time scale it is the age of the individual or even that is to be scaled and measured. It is a mathematical fact that measurement is assessment of the difference between two points, and that measurement is the index of what is to be drawn. In case of Ayurveda diagnostics it is the difference between expected standard dosha and its presentation in the individual under examination, which is defined as the disorder.

In the case of Prakruti this test is performed using a set of questions. The answers to these questions are attributes which reflect upon the mix of the different dosha and also a dominant dosha. This is likely to change partly with age and even the known certain constants change in their presentations with age. This is an accepted norm across all sciences.

When we just look at one answer the reasoning is of one dosha, however when it is a multitude of answers it is a complex between different dosha which establishes a mix and thus a presentation which can be juxtaposed against the desired standard, thereby drawing a distinct difference and hence a measurement.

When this scaling is done using an instrumentation it acquires a presentable metric and establishes itself as practicable. This also allows the presentation to be discussed enmasse and therefore educate more people and widely at the sametime, as also clear misgivings and apprehensions about anything that surrounds the idea. That, thus turns scientific and a subject which can be internalized into a system as a protocol, proving its validity and enriching the system.

This is where the software which is in presentation presents itself differently and better than any other existing softwares in the open internet space. It allows systemic internalization with a detailed presentation unknown largely.

Before we discuss the observations, let us look at the presentations of some of these graphs and plots -

Figures on age of 1 Day for a disease free person with disease free gestation -

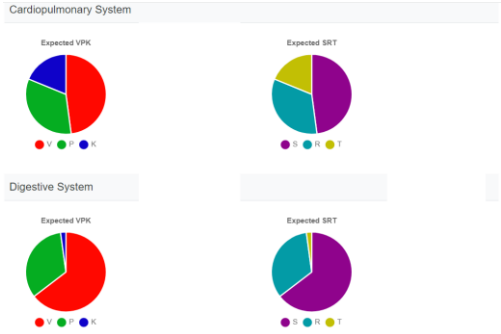

Fig - 5 [21] - Srotas map at birth

Fig - 6 [21] - Srotas map at birth

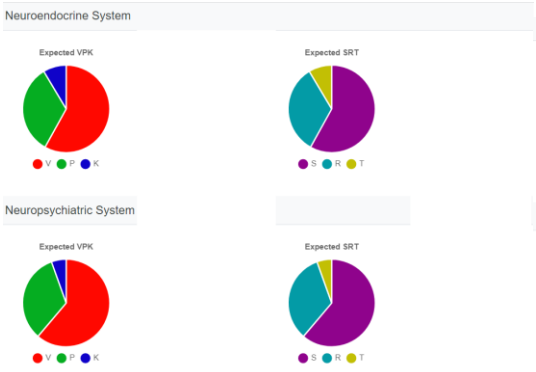

Fig - 7 [21] - Srotas map at birth

Fig - 8 [21] - Srotas map at birth

Figures on age of 121 years for a disease free person with disease free life -

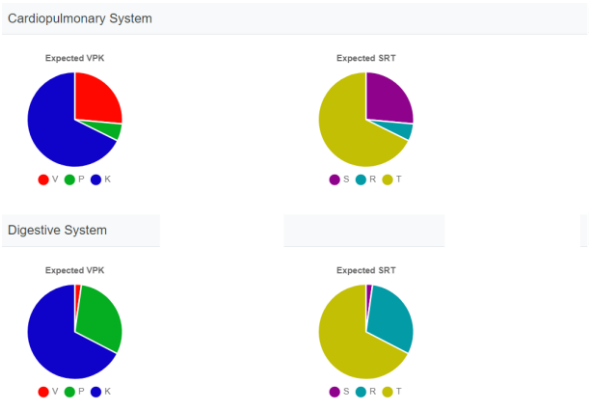

Fig - 9 [21] - Srotas map at terminal life

Fig -10 [21] - Srotas map at terminal life

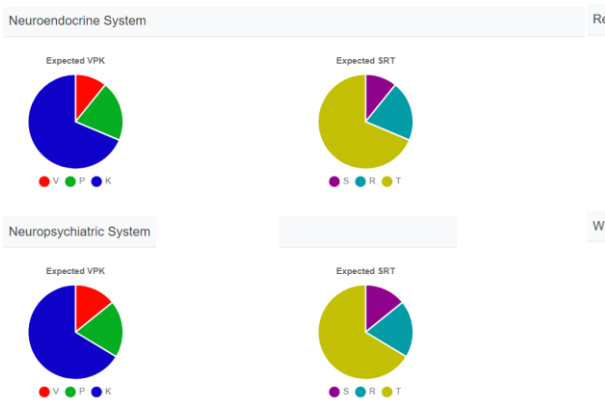

Fig - 11 [21] -Srotas map at terminal life

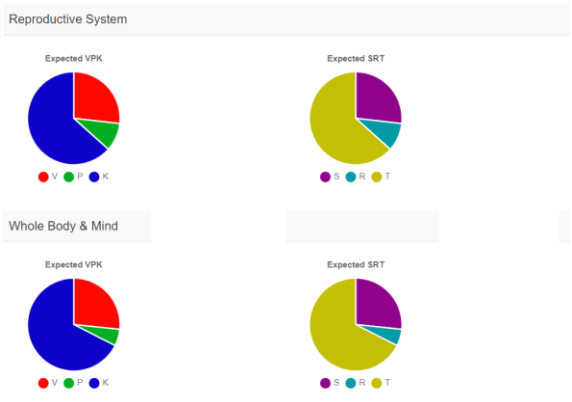

Fig - 12 [21] - Srotas map at terminal life

The images reflect and present two distinct features, viz.; -
1) the transgression of physiological prakruti from kapha and satva dominance to vata and tamas dominance across age when we look at the whole of the body and mind.
2) The different srotas hold their innate characters however each reflects an impact of aging on them with consistent shifts towards vata and tamas doshas.

While this transgression happens there are two possibilities to observe where this shift could be less than expected or more, and its relative association with other srotas, which is expected to match with the signs and symptoms and also physical performance of the srotas.

The derangement is a reflection of the disorder. The derangement coming closer to figures as reflected in the plots at the age of 121 years is a sign or degree of assessment as to how far the condition can be stabilized, reversed or cured.

What can be drawn as derivations from the software and how?

The next important question which needs to be answered is when you can read the difference as measurement, that data presents, is how to interpret data?

In Ayurveda diagnostics the attempt to link various systems which are identified morphologically based on physiology like in modern medicine, viz., srotas is not seen or known discreetly, at an instrumental level. Unlike 9

systems in modern science here we consider 13 systems. There is an intricate link between them and it is infallible to ignore this link. This is however possible when you draw data individually for these srotas such as to highlight their individual prakruti dynamically as also their progression in case of disorders.

Where does Ayurscan lie in the diagnostic understanding and monitoring of progress of disorders?

The relevance of any diagnostic process is dependent on clinical history. The more detailed it is the better the picture it presents. This does not defy the idea that diagnostics have a role in defining the direction of disorder management.

Any diagnostic tool helps assess the current status of the disorder and its associated complications.

Prakruti analysis is however distinct and different in drawing a future progression as also relating a past to the present in that it examines a whole system and in one place one can see the comparatives of shifts in the doshas. It gives a picture where some dosha will show an incremental shift in a particular srotas and a detrimental shift in another srotas.

This shifting has to be read closely in association with shifts in raktavaha and rasavaha srotas and in light of pittaja derangements, and mutra vaha, pureeshwara and udaka vaha srotas in their capacities to lose mal in different forms from the body which enables establishing the homeostasis.

When we map the clinical history against the srotas derangements we can plot the progress of the derangement and through the chronology of events establish the involvement of srotas. This progression takes place in simple terms to say as - origin - progression - spread. These can also be termed as primary, secondary and tertiary.

There is definitely an understanding that Rasavaha Srotas and Raktavaha Srotas are the secondary locus of all disorders.

It may be assessed that progression to a tertiary site brings upon complexities and part of it may be irreversible as derangements of the raktavaha srotas and rasavahasrotas may not be fully reversible.

It may also be drawn that if raktavaha or rasavaha srotas is itself the primary locus of disorder it presents with distinct possibilities of a fast spread and a difficult condition to cure and manage. More distinctly when a tertiary locus develops following a rasvaha or raktavaha srotas or both being the primary and secondary locus, the condition can become terminal in a short span of time.

This can be closely observing some significant examples of metabolic environmental impacts and conditions like cancer and immune conditions.

Images from some medical conditions are shared below with a textual idea on how prakruti analysis at the srotas level draws a similar parallel as modern diagnostics and also, similar outcomes, without a physical invasion of the body.

Table 1. Population-specific prevalence of ten common autosomal recessive disorders.

Disorder	Causative genes	Pathogenic variants[a]	Interethnic variability	Cases per 10,000 individuals						
				Global	EUR	FIN	AJ	LAT	SAS	E
Hyperprolinemia	PRODH, ALDH4A1	207 (7/200)	663	54.9	114.2	23.9	**132.5**	24.1	23.1	
Hemochromatosis, type 1	HFE	35 (5/30)	335	11.6	**33.5**	12.3	1.4	2.4	0.1	<
Biotinidase deficiency	BTD	124 (59/65)	309	12.2	18.4	**30.9**	10.8	5	17.7	<
Stargardt disease	ABCA4	528 (149/379)	113	4.3	4.8	0.2	6.3	3	1.3	
Sickle cell anemia	HBB	62 (44/18)	211	0.6	<0.1	0.1	<0.1	0.1	1.8	
Familial Mediterranean fever	MEFV	95 (15/80)	155	0.1	0.1	<0.1	**15.5**	<0.1	<0.1	
Gaucher disease	GBA	93 (34/59)	98	0.1	0.1	0.1	**9.8**	<0.1	<0.1	<
Adrenal hyperplasia, congenital, due to 21-hydroxylase deficiency	CYP21A2	49 (10/39)	48	1.1	1.8	0.3	0.2	0.5	0.2	
Infantile hypercalcemia	CYP24A1,SLC34A1	278 (19/259)	18	4.2	8.3	**8.8**	1.1	0.5	2.3	
Cystic fibrosis	CFTR	408 (183/225)	39	3.1	6	0.6	**7.7**	2.2	1.2	

Interethnic variability is defined as the fold change between the highest and the lowest population-specific frequency. The highest populatio prevalence for each disease is indicated in bold.
EUR Europeans, *FIN* Finns, *AJ* Ashkenazi Jews, *LAT* Latin Americans, SAS South Asians, *EAS* East Asians, *AFR* Africans.
[a]Values in brackets indicate the number of pathogenic and number of predicted pathogenic variants.

Fig - 13 [21] - Racial distribution of Autosomal anomalies

The above image establishes how across race and geography the same medical condition shows a variability, and is attributed in understanding to, relatable changes to vegetation and climate.

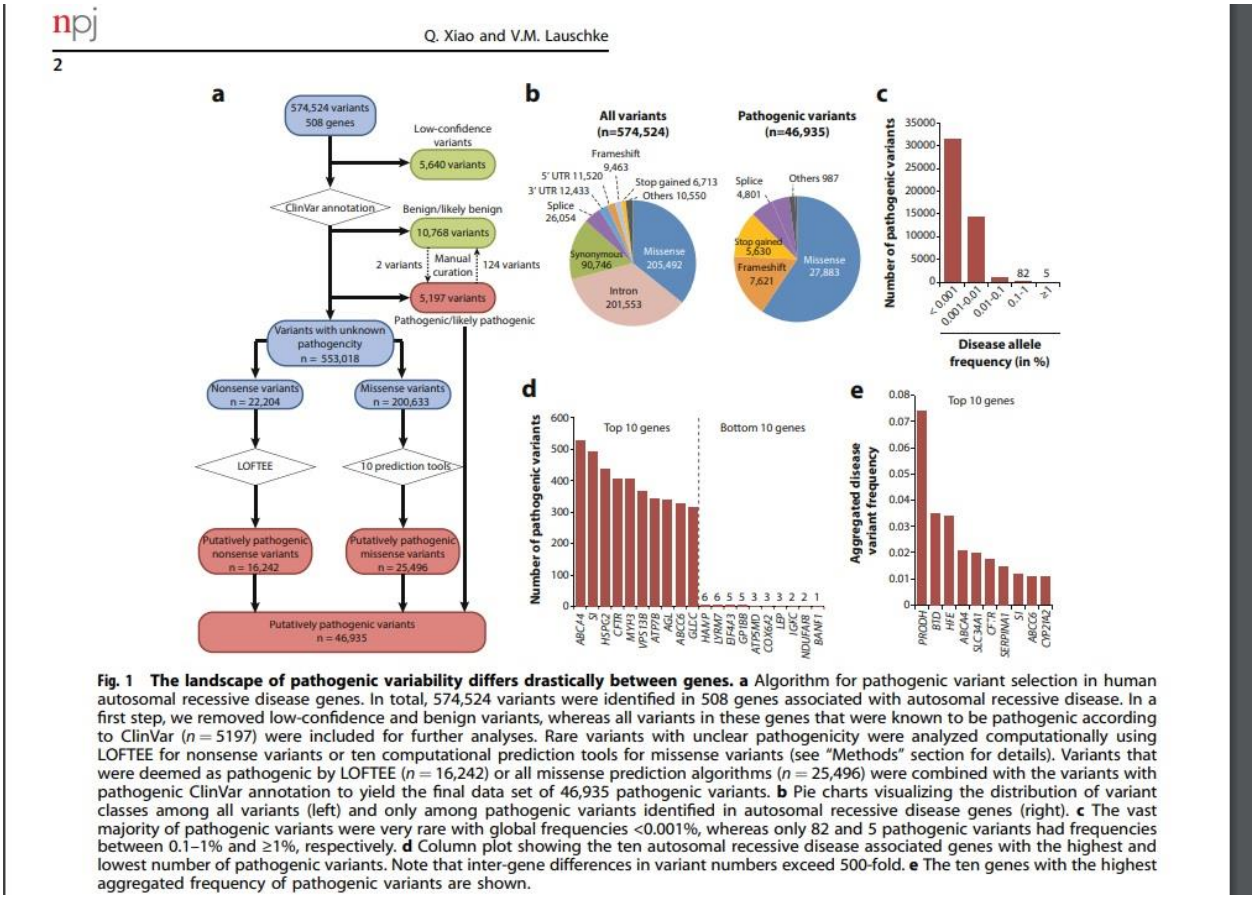

Fig. 1 The landscape of pathogenic variability differs drastically between genes. a Algorithm for pathogenic variant selection in human autosomal recessive disease genes. In total, 574,524 variants were identified in 508 genes associated with autosomal recessive disease. In a first step, we removed low-confidence and benign variants, whereas all variants in these genes that were known to be pathogenic according to ClinVar ($n = 5197$) were included for further analyses. Rare variants with unclear pathogenicity were analyzed computationally using LOFTEE for nonsense variants or ten computational prediction tools for missense variants (see "Methods" section for details). Variants that were deemed as pathogenic by LOFTEE ($n = 16,242$) or all missense prediction algorithms ($n = 25,496$) were combined with the variants with pathogenic ClinVar annotation to yield the final data set of 46,935 pathogenic variants. **b** Pie charts visualizing the distribution of variant classes among all variants (left) and only among pathogenic variants identified in autosomal recessive disease genes (right). **c** The vast majority of pathogenic variants were very rare with global frequencies <0.001%, whereas only 82 and 5 pathogenic variants had frequencies between 0.1–1% and ≥1%, respectively. **d** Column plot showing the ten autosomal recessive disease associated genes with the highest and lowest number of pathogenic variants. Note that inter-gene differences in variant numbers exceed 500-fold. **e** The ten genes with the highest aggregated frequency of pathogenic variants are shown.

Fig - 14 [21] - Genes and Pathogenicity

The above image discusses genes and pathogen behavior, which is quite related to microcosm of the human body environment, termed as homeostasis. It is known the variations to homeostasis can cause pathogen interactions as external agents, as also physiological and genetic moderations, owing to altered pH conditions and other ionic, chemical and biochemical factors. This is again mapped in prakriti studies as a forward looking, or, even a relatable regression analysis across srotas, in relation to clinical history.

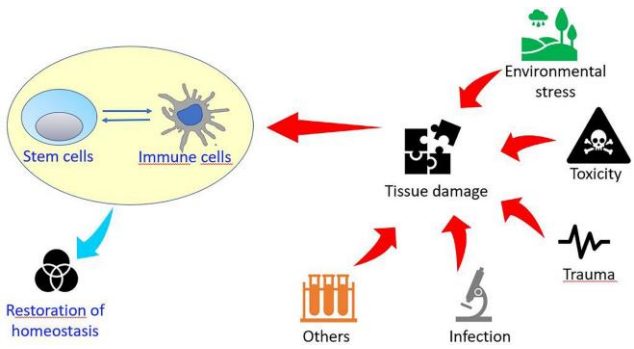

Fig - 15 [11] - Genes and Pathogenicity

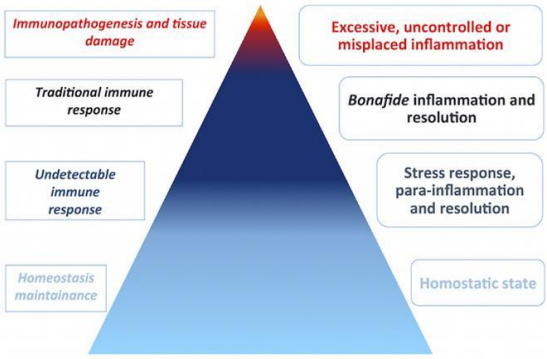

Fig - 16 [18] - Genes and Immunity

Apart from genes and pathogen behavior, immunity is also quite related to microcosm of the human body environment, termed as homeostasis. This is depicted in the images above. It is also known that altered immune behavior also allows external agents, as also physiological and genetic moderations. This is again mapped in prakriti studies as a forward looking, or, even a relatable regression analysis across srotas, in relation to clinical history.

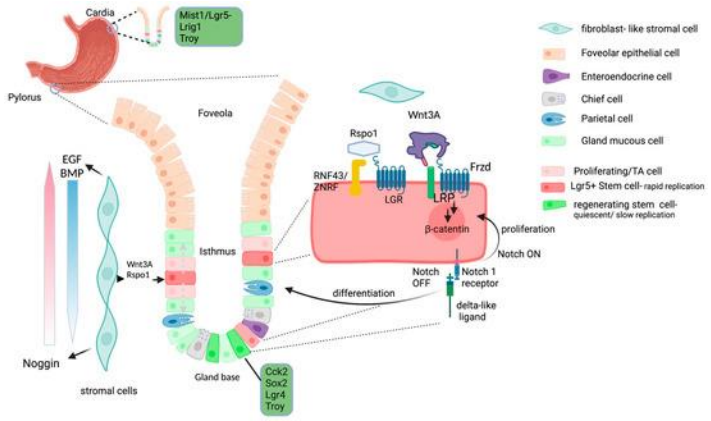

Fig - 17 [17] - Impact of chronic changes within homeostasis

Another example is with reference to the image above which showcases - Chronic Inflammation Creates a Milieu Balanced between Injury and Immune Suppression, Creating an Environment in the Stroma That Predisposes to Stem Cell Changes. Such changes ably alter the protein structure and thus the progression of future course of life of the cell or tissue. In the absence of modern laboratory techniques, still an assessment on prakriti gives 2 views -

1) the future natural course of the dosha's, both with respect to the body, and, also in this case the individual srotas; and
2) a comparative to be drawn by presentation of clinical data, suggesting the altered course.

The larger the deviation, one can deduce the chronicity, or, trauma of infective etiology, or accident, in correlation with clinical history, and with basic knowledge of school level chemistry, and physics, make an understanding, thereby a treatment algorithm.

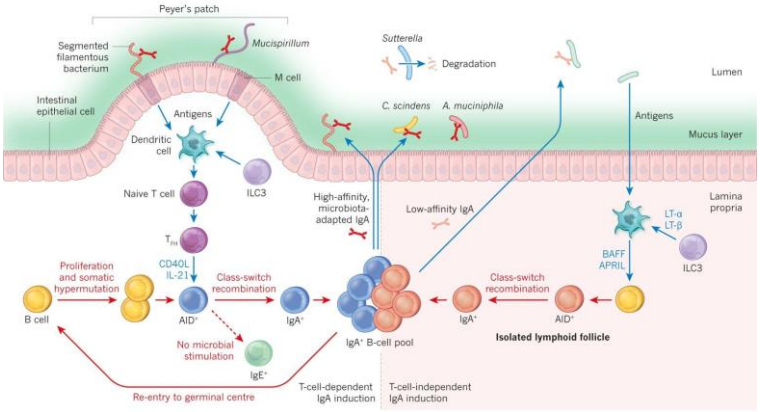

Fig - 18 [16] - Impact of gut microbiota on immune homeostasis

Similarly the above image talks of an additive arithmetic change to the body and its incremental value with increased colonization of microbes in the gut, leading to an altered gut environment. This is known to alter absorption of nutrition, which in turn, in the course of metabolism, is known to alter pH scales on a regular basis. An over or under colonized gut can by itself, hence change the homeostasis and lead to medical conditions of significant value. This change is again a prakriti deviation which is read along with annavahasrotas and its impact on rasa vaha srotas and rakta vaha srotas, further leading up to various other srotas. This is a classic example of Primary, Secondary and Tertiary loci definition of disorder and spread of the same.

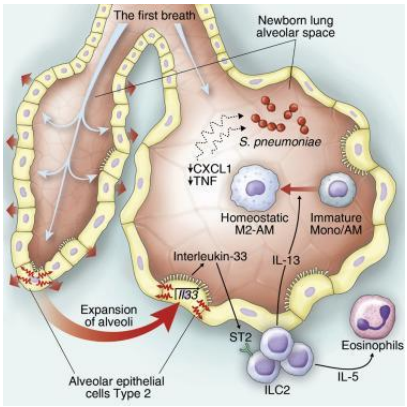

Fig - 19 [15] - First-Breath-Induced Type 2 Pathways Shape the Lung Immune Environment

In the context of the above image, what is termed as reverse time scaling of this software, which counts of almost a 157% difference of time rate in the reverse order of aging, with respect to embryonic life, the image discussed the impact of first breath at birth to Lung environment, its immune change models and susceptibility to neonatal pneumonia.

This information can also be combined with birth at home, in urban and rural surroundings, with mud cast and concrete cast houses to study impact of temperature integration, and ensuing handling at a trained and untrained level of human interaction, when comparing hospital vs at home birth models. This susceptibility data can then be used to develop models for handling childbirth mortality, female mortality at partum, and even incidence of CAP (COmmunity Acquired Pneumonia) and HAP (Hospital Acquired Pneumonia) in neonates.

This is in the Ayurvedic context a study of the combined impacts on Rasvaha and Raktavaha srotas, which, as discussed above become the Primary and Secondary sites of impact and hence, define the criticality of the medical condition. This criticality in neonates and otherwise is read as susceptibility to septicemia and is always considered as krichchasadhya or in english terms difficult to treat. This is one more instance to understand how prakriti understanding pares the gap of lingual differences between two medical systems; and juxtaposes both in the same planar view.

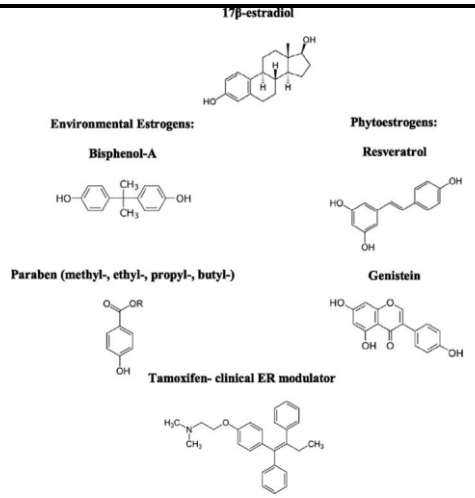

Fig - 20 [28] -Common food ingested biomolecules and colon cancer (1)

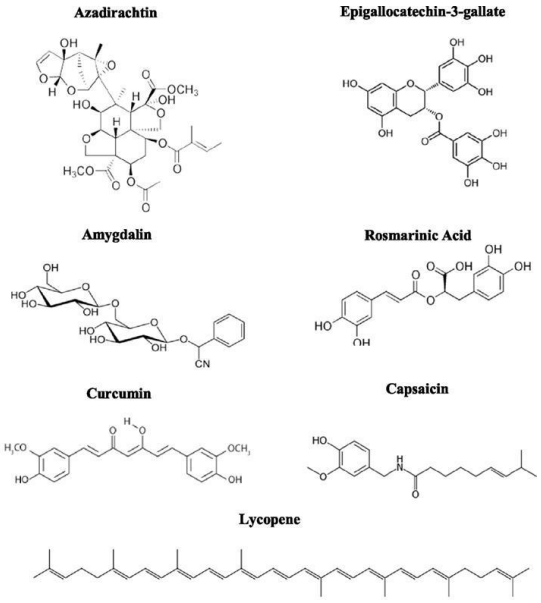

Fig - 21 [28] - Common food ingested biomolecules and colon cancer (2)

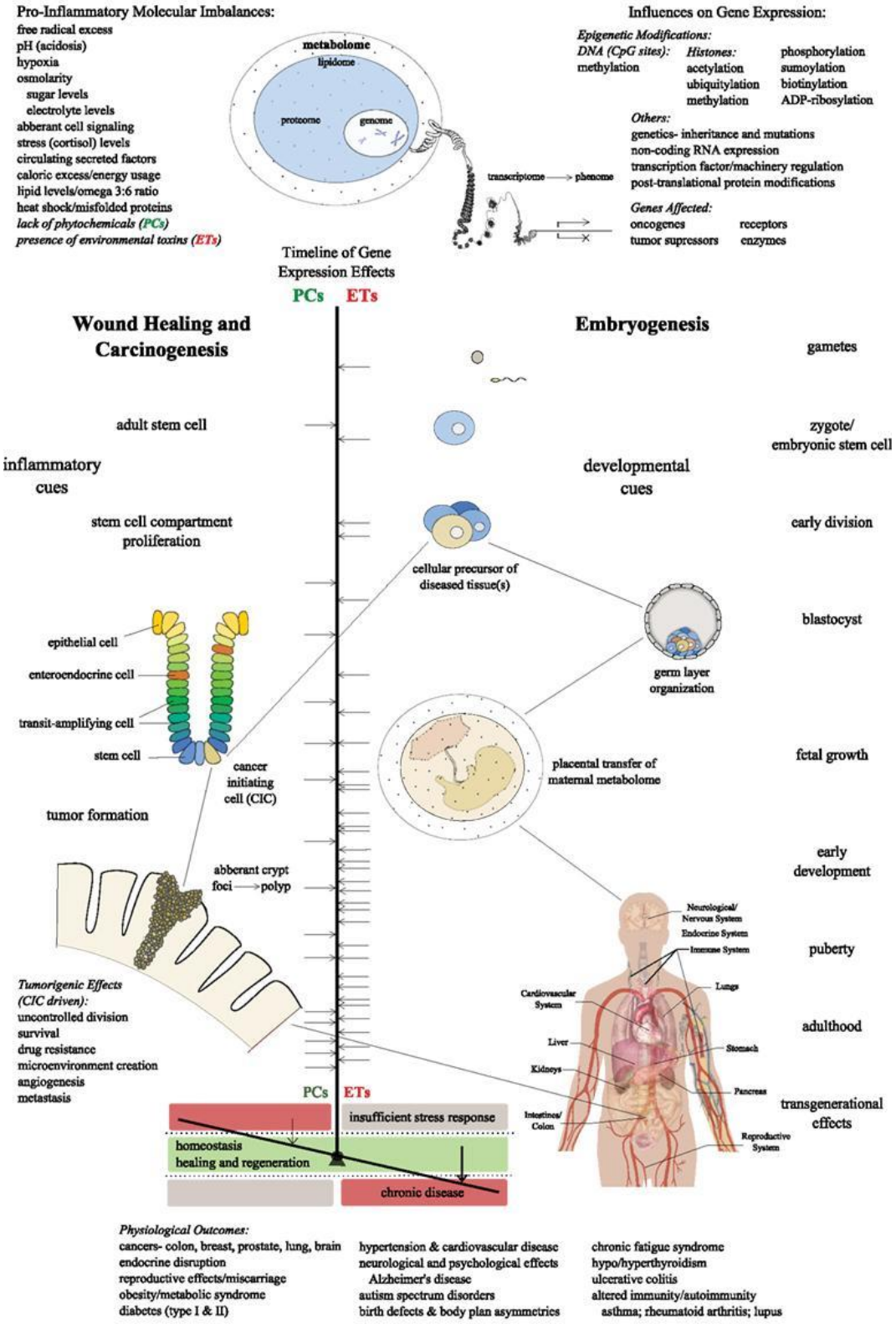

Fig - 22 [28] - The dynamic epigenetic interplay of inflammation,environmental toxins, and phytochemicals theorized to lead to homeostatic imbalance and chronic disease in modernized societies; the manifestation and extent of which depends upon the hypothetical timing of critical gene expression changes in stem cells during embryogenesis, wound healing, and colon carcinogenesis (in this scenario), with other outcomesplausible.Frontier

If we look at figures 20, 21 & 22, they discuss the impact of food and herbs which are understood to have an impact on colon cancer. These are related to another study which highlights - Homeostatic Imbalance and Colon Cancer: The Dynamic Epigenetic Interplay of Inflammation, Environmental Toxins, and Chemopreventive Plant Compounds. The repeated use of the word Homeostasis and its grammatical variants, highlights the significant effort and research that modern medicine and science has done to unravel, so called secrets of nature, where

traditional sciences have failed to live up to the expectations of change, which is an adaptive failure. This can be understood in the change of approach to things and, well documented in Ayurveda with respect to manas dosha and its impacts on sharira dosha. Modern sciences also elucidate that a change in mental attributes, affects physiological functions and systemic homeostasis.

A more complex condition related to wnt-signaling, which is primarily to deal with immune responses, and their impacts on bone and bone related diseases, discusses the importance of homeostasis as an essential when dealing with immune mediation and management of such conditions. This could reflect in all three possibilities of anaphylaxis, autoimmunity and even cancer.

The significance lies in understanding the involved metabolic pathways and their outcomes; their interaction with different media, which get internalized into the body by virtue of different means like food, the altering of homeostasis and the resultant handling of triggers.

What looks fairly simple in the Ayurvedic juxtapositioning of vata-pitta-kapha is equally complex as it appears in the language of modern science, when put to time scaling, where both chronicity, and future course can be seen on the same number line.

Prakruti mapping looks at this tracing through a delineation of doshas in the srotas, and the mapping, looks to distribute the flow of doshas across the srotas, the injunctions to the flow and the resultant, nutritional imbalance of the dosha's, a phrase to be explain the flow and interconnect of srotas through doshas, compatibly reflected by rasavaha srotas and the rakta vaha srotas. This humoral flow is a key concept in prakruti management, and is aligned with the spread of disease concept even in modern science through the lymphatic, blood and fluid channels of the body, when co-infected or cross infected across the membrane and fascial barriers of the tissues and organ systems.

This also falls in line with the ideas of cellular metastasis and immune homeostasis when discussing spread and management of cancer, treatment of cancer, and autoimmune conditions. Ayurveda when it looks to define treating protocols it marks a flow diagram and algorithm principally based on this srotas spread.

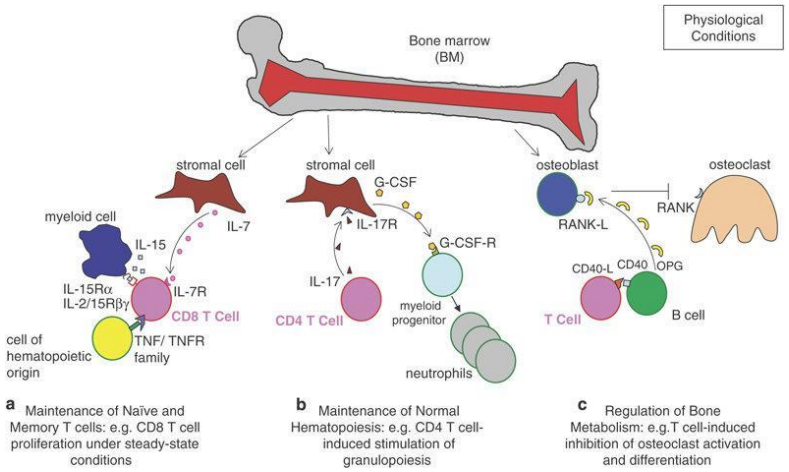

Fig - 23 [30] - Bone marrow (BM) T cells contribute to the homeostasis of the immune system as well as of different cell types present in the BM environment.

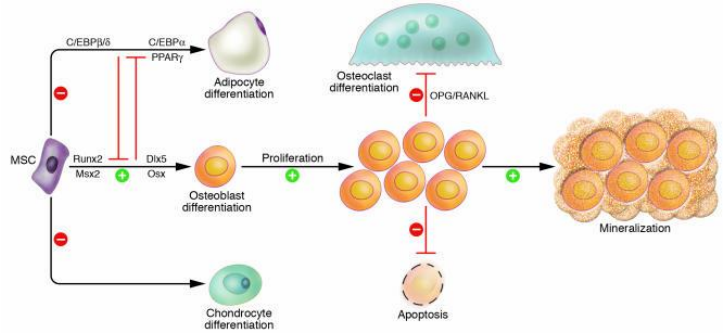

Fig - 24 [12] - Wnt/β-catenin signaling regulates osteogenesis through multiple mechanisms. Wnts repress alternative mesenchymal differentiation pathways such as adipocyte and chondrocyte differentiation and promote osteoblast differentiation, proliferation, and mineralization activity while blocking osteoblast apoptosis. By increasing the ratio of osteoprotegerin (OPG) to RANKL, β-catenin represses osteoclastogenesis. Green plus signs indicate positive effects of Wnt; red minus signs indicate inhibitory effects of Wnt. Dlx5, distal-less homeobox 5; MSC, mesenchymal stem cell; Msx2, msh homeobox homolog 2; Osx, osterix; Runx2, runt-related transcription factor 2.

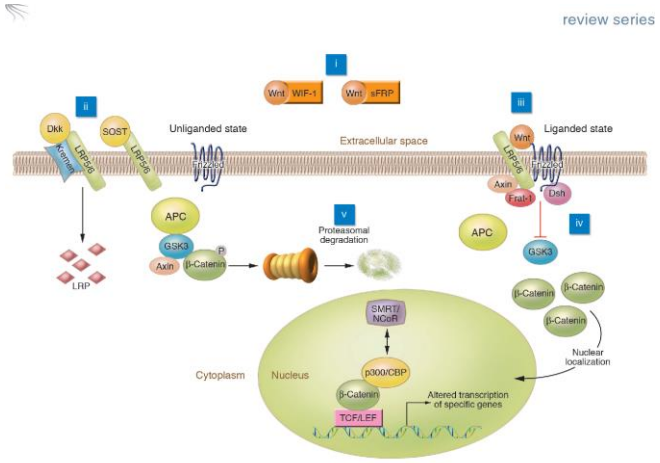

Fig - 25 [12] - Elements of Wnt/β-catenin signaling. In the liganded state, binding of Wnt to the frizzled receptor inhibits GSK3 activity through mechanisms involving Axin, Frat-1, and Disheveled (Dsh). β-Catenin accumulates and is translocated to the nucleus, where it binds to TCF/LEF, causing displacement of transcriptional corepressors (e.g., silencing mediator of retinoid and thyroid receptors and nuclear receptor corepressor; SMRT/NCoR) with transcriptional coactivators (e.g., p300 and cAMP response element–binding protein; p300/CBP). Wnt signaling can be blocked by interactions of Wnt with inhibitory factors including WIF-1 and sFRP or the interaction of LRP5/6 with the Dkk/Kremen complex or sclerostin (SOST gene product). Phosphorylation of β-catenin by GSK3 stimulates β-catenin degradation. Potential intervention points for drug therapy (i–v) are indicated.

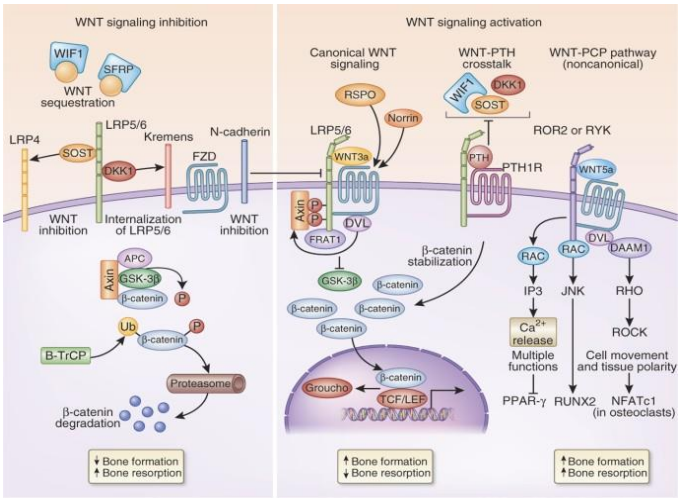

Fig - 26 [10] - WNT signaling in bone homeostasis and disease: from human mutations to treatments

Therefore drawing flow diagrams and algorithms for disorder management based on a proper prakruti assessment becomes an essential drawing also in the absence of modern technology, it can be a very handy tool in the hands of a physician of Ayurveda or modern medicine to plan a course of treatment in the following. This also enables significantly corrigible communication through data representation, and thereby communication on all platforms.

Example of Reverse Time Scaling and its impact on quality of survival with deficit

In one of our cases where we had a neonate born premature and a history of mother having been treated with a drug which could cause birth defects, we could reduce seizures in the epileptic child using a reverse time scaling model to arrive at a birth prakruti which was short of its term by nearly 12.5 years of adult life.

The immature development of the homeostatic adaptability, in addition to the effect of a drug which the mother was taking, altered the homeostatic environment of the amniotic sac through the raktavaha srotas spread from the mother, and through the rakta vaha srotas of the child went on to impact the manovaha srotas prominently in the neonate.

These are complex derivations, and need further discussions, deliberations and observations to establish as a model; however, the hypothesis definitely falls in line with modern medicinal chemistry and its observations.

In the tables [1], [2] & [3] related to the same case, it can be seen a relatively higher expected vata condition, which gives a predisposition to physiologically vata dominant presentations at birth, which is unlike as expected. Since vata has a predisposition to be a neurological manifestation, seizures in an unless otherwise a kapha dominant homeostasis, is an expected abnormality. This is also seen in other premature born children, with variations of electrolytes, glucose and carbonate levels in their blood, often seen with a high basal metabolic rate and demand of consumption to balance the adaptive needs of homeostasis.

SROTAS	V	P	K	S	R	T
PRANAVAHA SROTAS	29%	9%	62%	29%	9%	62%
UDAKA VAHA SROTAS	30%	13%	57%	30%	13%	57%
ANNAVAHA SROTAS	20%	-50%	130%	20%	-50%	130%
RASA VAHA SROTAS	30%	11%	60%	30%	11%	60%
RAKTA VAHA SROTAS	30%	11%	60%	30%	11%	60%
MAMSA VAHA SROTAS	56%	17%	27%	56%	17%	27%
ASTHI VAHA SROTAS	62%	29%	9%	62%	29%	9%

MAJJA VAHA SROTAS	64%	32%	4%	64%	32%	4%
SHUKRA VAHA AROTAS	25%	-38%	113%	25%	-38%	113%
MUTRA VAHA SROTAS	30%	11%	60%	30%	11%	60%
PUREESH VAHA SROTAS	24%	-27%	104%	24%	-27%	104%
SWED VAHA SROTAS	31%	22%	47%	31%	22%	47%
ARTAVA VAHA SROTAS	27%	-4%	76%	27%	-4%	76%
MANO VAHA SROTAS	31%	-19%	89%	31%	-19%	89%

Table 1[21] - Expected Prakruti at 8 Months

SROTAS	V	P	K	S	R	T
PRANAVAHA SROTAS	26%	4%	70%	26%	4%	70%
UDAKA VAHA SROTAS	27%	9%	64%	27%	9%	64%
ANNAVAHA SROTAS	6%	-77%	172%	6%	-77%	172%
RASA VAHA SROTAS	27%	7%	67%	27%	7%	67%
RAKTA VAHA SROTAS	27%	7%	67%	27%	7%	67%
MAMSA VAHA SROTAS	54%	15%	31%	54%	15%	31%
ASTHI VAHA SROTAS	62%	28%	10%	62%	28%	10%
MAJJA VAHA SROTAS	63%	32%	5%	63%	32%	5%

SHUKRA VAHA AROTAS	14%	-57%	143%	14%	-57%	143%
MUTRA VAHA SROTAS	27%	7%	67%	27%	7%	67%
PUREESH VAHA SROTAS	14%	-43%	129%	14%	-43%	129%
SWED VAHA SROTAS	30%	20%	50%	30%	20%	50%
ARTAVA VAHA SROTAS	22%	-11%	89%	22%	-11%	89%
MANO VAHA SROTAS	23%	-32%	109%	23%	-32%	109%

Table 2 [21] - Expected Prakkruti at 9 months

SROTAS	V	P	K	S	R	T
PRANAVAHA SROTAS	-3%	-4%	8%	-3%	-4%	8%
UDAKA VAHA SROTAS	-3%	-3%	6%	-3%	-3%	6%
ANNAVAHA SROTAS	-14%	-27%	41%	-14%	-27%	41%
RASA VAHA SROTAS	-3%	-4%	7%	-3%	-4%	7%
RAKTA VAHA SROTAS	-3%	-4%	7%	-3%	-4%	7%
MAMSA VAHA SROTAS	-1%	-2%	4%	-1%	-2%	4%
ASTHI VAHA SROTAS	0%	-1%	1%	0%	-1%	1%
MAJJA VAHA SROTAS	0%	0%	0%	0%	0%	0%
SHUKRA VAHA AROTAS	-10%	-19%	29%	-10%	-19%	29%

MUTRA VAHA SROTAS	-3%	-4%	7%	-3%	-4%	7%
PUREESH VAHA SROTAS	-9%	-16%	25%	-9%	-16%	25%
SWED VAHA SROTAS	-1%	-2%	3%	-1%	-2%	3%
ARTAVA VAHA SROTAS	-5%	-7%	13%	-5%	-7%	13%
MANO VAHA SROTAS	-7%	-13%	20%	-7%	-13%	20%

Table 3 [21] - Deviations in prakruti at premature birth

Clinical highlights of the software across years of observations?

Observations across the spectrum as discussed suggest that prakruti analysis, and in a more methodical way, plays a vital and critical role in management of conditions like - Infantile Type-I-DM, liver cirrhosis, IBD, post COVID, cancers, psychiatric and neurological conditions and their manifestations.

The observations have spanned over 15 years of observation, data collection, modern corroboration and research across more than 500 patients, defining primary, secondary and tertiary loci of medical condition and their progression.

These observations conclude, age, geography and other factors changing, prakriti of the individual keeps changing though primary prakriti remains a dynamic continuum.

Fine evaluation of srotas allows focus on progress and outcomes to the effect, notable improvement of up to 37% on timeframes, up to 28% on cost and 75% on efficacy, with a 100% on quality of protocols.

Medical Condition	Number of Patients	Maximum Timeframe of management	Generally observed cost in Timeframes	Cost of Management	Efficacy of management	Patients following the protocols
Liver Cirrhosis	15	Upto 18 months	85%	100%	11	6
Paralysis	38	6 months	50%	100%	32	10
Diabetes	50	96 months	30%	100%	40	18
Epilepsy	5	36 months	-250%	100%	3	1
Endocrine Disorders	129	120 months	45%	100%	78	48
Infertility	25	6 months	80%	100%	20	8
Psoriasis	27	120 months	80%	100%	20	10
Autoimmune conditions	53	10 months	65%	100%	36	22

Cancer	13	9 months	40%	100%	10	6
Allergic Respiratory conditions	155	9 months	45%	100%	125	46

Table 4 - Clinical observations record across 15 years

What is the future of the present technology and software?

With development of any technology, or, improvisation of an existing technology in any form, it is important to have a future representation of the technology. The present version talks of time scaling on one aspect, and this needs to be combined with other important parameters that influence prakruti assessment and management to achieve near six sigma quality.

The future looks to integrate impacts of geographical, social, psychological and other parameters into more specific representations and their impacts to understand and represent the variations of the srotas presentations at a much discreet fine level of assessment.

This is expected to particularly assist understanding of endocrine, neurological, and psychological conditions.

We are also working and testing reverse time scaling which we have used in one of our epilepsy management conditions of a premature born child, including considering parental prakruti at the time of conception, with results which are very inspirational; where we could bring down a number of seizures from more than 20 in a day to 1 in approximately 2 and a half weeks.

This can also be used to understand autoimmune conditions and the possible triggers which can stimulate such conditions.

There are many advantages and as we look to work on upgrading this technology where we propose to take this across 7 different versions, we further look to expand collaborations and use of it, to collect data and also improve the presentations of the final reports; achieving globalization of Ayurveda and a distinct acceptability internationally as a medical system, beyond a holistic impression which believes it to be an alternate hypothetical science.

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