



AUGUST 2019

A R O G Y A C H I N T A N P A T R I K A

Editor's Desk



In an article, "Foundations of Immunometabolism and Implications for Metabolic Health and Disease", published in Immunity 47, September 19, 2017, interaction between immune and metabolic responses are described

in details.

The important word is "Immunometabolism". This word consists of two words: immunity and metabolism.

In modern times, study of the intimate relationship between metabolism and immunity, dates to the end of the 19th century, when physicians recognized metabolic pathologies associated with infections. In 1884, it was noted that patients with meningitis exhibit a transient diabetic syndrome and in fact the frequency of diabetes was so high that meningitis diagnoses were sometimes overlooked and patients were treated only for diabetes. Loss of secretion or action of insulin is a critical component of diabetes. Insight into the mechanism at play was missing until experiments carried out in the 1980s, when it was shown in dogs that treatment with lipopolysaccharide (LPS) from gram-negative bacteria caused resistance to insulin by reversing the ability of insulin to induce glucose uptake in the muscle. In the same period, it was recognized that acute infection in human patients was associated with decreased binding of insulin to the insulin receptor of isolated blood cells.

Summary of these major findings have given rise to the field of immunometabolism. Immunometabolism is a rapidly expanding field of investigation linking the disciplines of immunology and metabolism.

This study shows the decadal observations from 1963 to 1973, leading to establishment of pathophysiology involved in immunometabolic diseases. The studies in next decade till 1983, established the concept by finding the links between infection and metabolism. Till 1993, purification of TNF and other cytokines led to evidence of molecular mediators in inflammation. During the long duration from 1993 to 2003, various debates led to discovery of signaling pathways, linking inflammation to glucose metabolism and role of cellular players (immune effectors) involved in adipose tissue inflammation. Very recently all these findings have provoked to undertake various clinical studies targeting numerous anti-inflammatory strategies.

This is how, over a period of five decades the observations led to the idea of immunometabolism and in 2013, based on these ideas clinical studies were conducted establishing the importance of immunometabolism.

The article ends with the following sentence, "This excellent progress should allow us to overcome the challenges of designing effective therapeutics, disease preventative strategies and provide excellent metabolic interface to improve human health."

Ayurved has highlighted the importance of Agni and Ojas in the therapeutics of diseases. Agni plays the important role in metabolism. 'रोगाः सर्वेऽपि मन्दाग्नेौ' is very famous sutra in Ayurved. Whereas, ojas or prakrut kapha is important for defence mechanism. It is very well said that प्राकृतस्तु बलं श्लेष्मा। In living organism, energy management is required for every biological function. The name for internal medicine in Ayurved is Kaya-Chikitsa; Kaya- Chikitsa means the measures to control Kaya i.e. Agni to treat disorders. The Ayurved gives predominant importance to Agni because metabolism (Chayapachay) is an essential component of life.

Langhan and Brunhan are the two types of Chikitsa in Ayurved. This classification is based on the principle of energy management. Conservation and spending of energy is essential for every biological function. In the early phases of evolution, a unicellular organism required only nutrients for survival. As unicellular organism evolved and became multicellular, it faced the threats from the external world. Therefore, there was a need for protection from environmental insults, this led to the evolution of the immune system. Thus, metabolism and immunity became two major biological components of living systems. Metabolism and immunity have been interwoven since the beginning of life and in the broadest manner, one could say that the timeline of immunometabolism is ancient, at least a few billion years old.

Because, metabolism and immunity have been involved in life maintenance and preservation, Ayurved gives importance to metabolism and defense mechanisms. And Ayurved emphasizes the role of immunity and metabolism in maintenance and promotion of health and also in the treatment and prevention of disorders.

From 1963 to 2013, 2,61,764 articles have been published describing links between immunity and metabolism.

Now we realise why Rishis (seers) called Ayurved as अनादि (beginningless), अनन्त (endless) and शाश्वत (eternal).

DR. MILIND PATIL

Advisor- Medical Services,

Vikram Division, Shree Dhootapapeshwar Ltd.



**"To lengthen thy life,
lessen thy meals"**

Benjamin Franklin

- by David Martin (1737-1797).

Oil on canvas, 1767.

Pennsylvania Academy of the Fine Arts, Philadelphia

Nuclear Factor kappa B: A Target in Guggul Kalpa

There is abundance of Guggul Kalpas in Ayurved, listed for various indications. Specific formulations address the management of diseases of specific systems. **Guggul** is the main ingredient of all Guggul Kalpas.

Generally, the indications of all Guggul Kalpas are chronic disorders of **inflammatory** and **degenerative** nature. It is well known that Guggulsterone, a bioactive component of guggul, has **anti-inflammatory** properties. All **chronic** and **metabolic disorders** such as obesity, liver disorders, malignancies, ulcers, renal disorders, neural, neuro-muscular, joint and skin disorders etc. do have **inflammation as a main pathological factor**.

Advances in modern science have revealed that Nuclear Factor kappa B (NF-κB) does have a major role to play in inflammation. The NF-κB has evolved to be a central participant in the protection of multicellular organism's integrity. The activation of NF-κB is responsible for initiating inflammation in response to various causative factors like red meat, high fat, grilled food, γ-radiation, tobacco, alcohol, stress, H. pylori, HPV, HIV, HBV and HCV. We all know that inflammation is the defence mechanism of the body.

The discovery of NF-κB is very interesting. In 1982, Indian scientist **Dr. Ranjan Sen**, a young doctorate in organic chemistry started his work as a postdoctoral fellow in the Baltimore laboratory at Massachusetts Institute of Technology (MIT). He worked on NF-κB, a complex molecule with **Dr. David Baltimore**, a Nobel Laureate in Physiology or Medicine (1975) and biochemist at heart.



Dr. Ranjan Sen



Dr. David Baltimore

The Nuclear Factor kappa B seems to be the major factor in inflammatory changes affecting metabolism in body as:

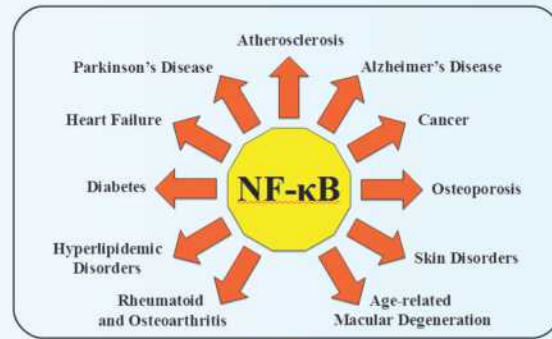
- It serves as a central inflammatory mediator
- Responds to a large variety of immune receptors
- Deregulated NF-κB activation is involved in various inflammatory development and progression of various metabolic diseases

Therefore, targeting the NF-κB signaling pathway represents a bright future for an attractive approach for anti-inflammatory and metabolic therapies.

Why is that NF-κB, despite its presence in the cell all the time, does not cause inflammation? Because, NF-κB, a transcription factor is kept under check in cell cytoplasm of macrophages by IκB kinase (IKK) complex – a master regulator of NF-κB signaling.

Different **causative factors** activate macrophages. **Macrophages** is a large family of innate immune cells that reside in different tissues and act as the front line of an immune response against infections. They differentiate into phenotypically different **M1 macrophages**. M1 macrophages are characterized by **activation of NF-κB**. On activation, NF-κB can **activate transcription** of various genes thereby, **regulate inflammation**. It targets genes involved in inflammation and increases the production of inflammatory cytokines, chemokines and adhesion molecules. It also regulates the cell proliferation, apoptosis, morphogenesis and differentiation.

So, it becomes obvious from above that, to treat inflammation one needs to inhibit activation of NF-κB. Guggulsterone, the main active ingredient of Guggul, does have its anti-inflammatory activity by



Cytokine dysregulation and NF-κB inflammation pathway.



virtue of its inhibitory activity on activated NF-κB.

In context of the Guggul's mode of mechanism, it is important to recall the role of **physical exercise** and **diet control** in inhibition of systemic inflammation and its actions in macrophages, mediated via suppression of NF-κB.

Following famous shloka describes the importance of physical exercise and diet control.

परिश्रममिताहारौ भुगतावक्षिनीसुतौ ।

तावनादृत्य नैवाह वैद्यमन्य समाश्रये ॥ हरित संहिता

The health benefits of these two are attributed to the healing power of twin deity of Ashwnikumar. Such is the potential of physical exercise and diet control in maintenance and promotion of positive health. Physical exercise attenuates inflammation via suppression of systemic macrophage activation. Exercise is also a potent biological response modifying signal and potentially an indispensable tool to regulate inflammation in osteoarthritis and other joint diseases. It effectively suppresses pro-inflammatory cytokine (IL-1β, TNF-α, IL-6, IL-17, IL-12 and IL-8) induction. [Osteoarthritis and Cartilage 22 (2014) S57–S48]

According to a study, alternate-day fasting protects the rat heart against age-induced inflammation and fibrosis by inhibiting oxidative damage and NF-κB activation. [Free Radic Biol Med. 2010, Jan 1; 48(1):47-54]

Similar to physical exercise and diet control, Guggul Kalpas do have very potent therapeutic activity and this can be harnessed for treating chronic disorders.

GUGGUL KALPAS :

- Have scientific evidence as a therapeutic agent in the treatment of:
 - Inflammation
 - Urinary disorders
 - Nervous disorders
 - Cancer
 - Hyperlipidaemia
 - Skin disorders
 - Associated cardiac disorders such as hypertension and ischemia
- Regulate gene expression
- Exhibit control over other molecular targets including transcription factors such as nuclear factor NF-κB, Signal Transducer and Activator of Transcription (STAT) and steroid receptors.

Recently published article, "NF-κB Signaling in Macrophages: Dynamics, Crosstalk, and Signal Integration" in Frontiers in Immunology (9th April 2019), ends with this sentence, "**The future of NF-κB signalling research is bright - and perhaps fluorescent!**"

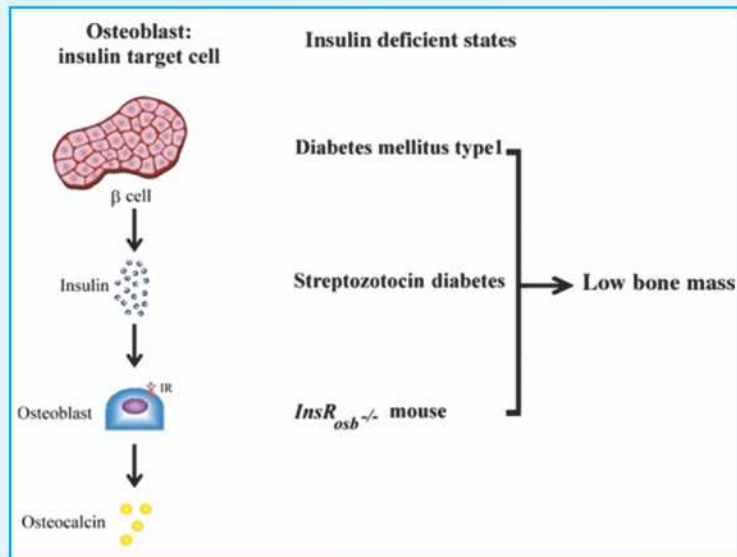
And, so is the relevance of Guggul Kalpas in the management of chronic inflammatory, degenerative disorders of joints, skin and lipid metabolism etc. is bright and fluorescent.

Vitamin D and Obesity exposed

Vitamin D help prevent rickets is a high school science now. Recently, functional role of vitamin D is linked to various non-communicable diseases. It has been pronounced as a potential protector against various metabolic disorders including cancer, heart disease, diabetes and mood disorders like depression.

Poor vitamin D levels cause endocrine alterations in abnormally obese persons due to malfunction in adipose tissue, leading to chronic low-grade inflammation. This inflammatory response is regulated by expression of adiponectin in adipose tissue. Vitamin D regulates the expression of the insulin sensitizing hormone adiponectin. Increased adiposity with vitamin D deficiency ($< 25\text{--}30\text{ nmol/l}$) and insufficiency ($< 50\text{--}100\text{ nmol/l}$) can be increasingly linked to insulin resistance, type 2 diabetes, CVD, acute respiratory tract infections, auto-immune diseases and obesity.

According to a recent article published in the journal European Society of Endocrinology, across both sexes increasing amounts of abdominal/belly fat predicts lower levels of vitamin D. A very recent study published in American Journal of Laboratory Medicine confirmed the effect of vitamin D deficiency on increase in the levels of cholesterol, triglycerides, and LDL; decrease in the level of HDL. Also, vitamin D reduced cytokine release and adipose tissue inflammation through the inhibition of NF- κ B signaling. Cholecalciferol supplementation, combined with a weight loss program, significantly improves insulin sensitivity in healthy subjects with obesity according to an article in Clinical Trials and Investigations.



Insulin regulates skeletal homoeostasis.

Insulin regulates skeletal homoeostasis by stimulating new bone formation and bone remodeling. Insulin deficiency or resistance leads to reduced bone mass and increased skeletal fragility. Insulin resistance does cause adipose tissue inflammation and is responsible for faulty bone remodeling. Therefore, adipose tissue inflammation is a promising therapeutic target to reduce insulin resistance, risk of type 2 diabetes mellitus and osteoporosis in obese individuals.

कृत्वा तु वृद्धिं समानैः धात्वग्रीन् स्थापयित्वा च।

असंशयं अस्थिक्षये जनयेदस्थिसारताम्॥

Body is made up of seven structural elements viz. Rasa, Rakta, Mansa, Meda, Asthi, Majja and Shukra. Asthi, the fifth dhatu, gets its nourishment from the fourth dhatu, that is, Meda.



Properly digested food nourishes sapta dhatus in order i.e. from Rasa dhatu to Rakta dhatu, Mansa etc. till Shukra dhatu.

Further, this is explained by Acharya Sushruta in Sutrasthan Adhaya 15 as:

मेदः स्नेहस्वेदौ दृढत्वं पुष्टिमस्थनां च

The Meda dhatu gives rise to glossiness of the body and contributes to the firmness and growth of the bones (Asthi dhatu). In sapta dhatus, Asthi is the fifth dhatu and it receives nourishment from the previous dhatus especially, Meda dhatu. In obesity and diabetes mellitus, Dhatwagnis including Medagni is weak hence, asthi dhatu fails to get its nourishment. Here comes the important role of Dhatwagnivardhan particularly Medagnivardhana (fat metabolism) in bone remodeling (osteogenesis). Osteoporosis is not only a calcium deficiency but also a metabolic disorder which requires metabolic correction.

Therefore, ideal anti-osteoporotic treatment should work at multiple levels i.e. Rasa, Rakta, Mansa, especially at Meda, because the main function of Meda as described by Sushruta is Asthiposhan (osteogenesis). Along with calcium supplements and certain ingredients having hypolipidemic, adipose and insulin sensitivity.

Asthiposhak Tablet is an ideal drug to treat osteoporosis with Kukkutandatvak Bhasma as a source of bio-organic calcium supplement and other herbal ingredients like Asthisamhruta, Arjuna, Shodhit Laksha, Amalaki, Ashvagandha, Guduchi, Shodhit Guggul, Bala and Babboola, which act as insulin sensitizer, hypolipidemic. The herbal ingredients in Asthiposhak Tablet play the role of vitamin D in bone remodelling.

Asthiposhak Tablets

Primary indications:

Old age and menopause related osteoporosis, non-healing fractures, calcium deficiency during pregnancy and lactation.

Secondary indications:

Hair fall, cracked nails, tooth decay.

Dosage and Anupan -

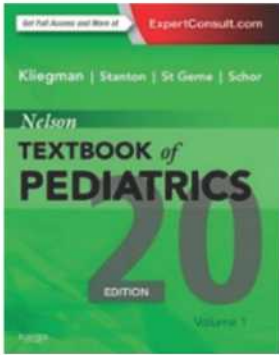
1-2 Tablets
twice or thrice
a day with milk.



Shree Dhootapapeshwar Standards
SDS Monograph No. 0702594
Asthiposhak Tablets



Best Treatment for Baby's Growth and Development



"The field of paediatrics is dedicated to optimizing the growth and development of each child"

- Nelson's Textbook of Paediatrics.

So is with Kaumarbhrutya in Ayurved:

कुमारस्य भरणं अधिकृत्य कृतं कौमारभृत्यम् ।

- चक्रपाणि

A major reason for the recurrent infections is immunodeficiency.

Recurrent infections do further result in immunodeficiency. This vicious cycle affects the growth and development of a child.

वर्णायुःकान्तिदं श्रेष्ठं पुष्टिकृद्बलवर्धनम् ।

बालानां वह्निकृच्चैव दन्तोद्भेदगदापहम्॥

Shishu Bharan Rasa is an Ayurvedic super specialty product useful for growth and development of children by improving overall immunity and nutritional status. It is a general tonic and acts as an appetizer in children. It helps in teething troubles, improves complexion and imparts glow to the skin of the child.



Jwar



Shwas



Kas



Infections



Feeding Issues



Tonsillitis



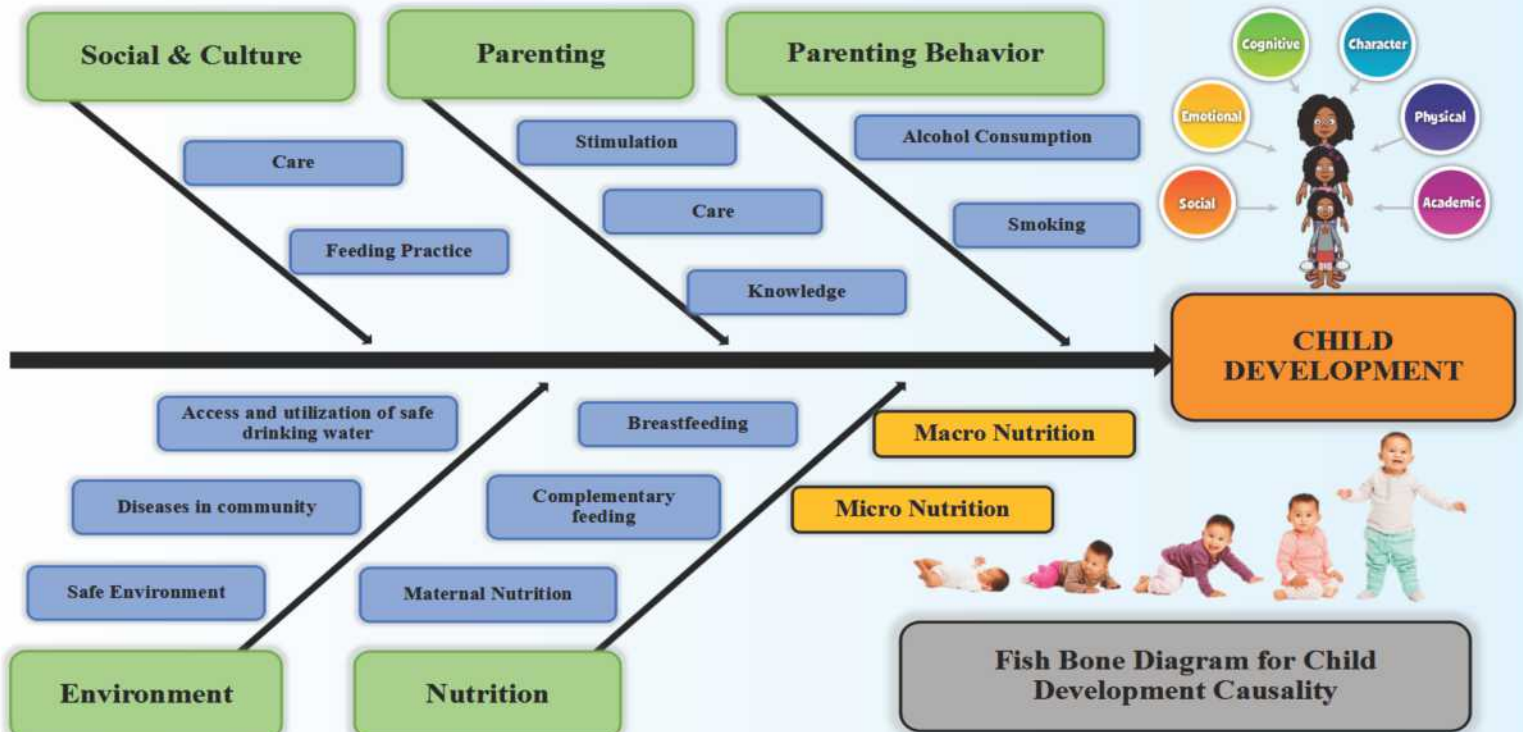
Malnutrition (Karshya)



Malabsorption (Agnimandya)



Atisar



Ingredients of Shishu Bharan Rasa

Kumarkalyan Rasa



Jwar, Shwas, Kas, Vaman, Parigarbhika, Kamala, Atisar, Karshya, Feed refusal, Agnimandya

Sitopaladi Churna



Shwas, Kas, Kshay, Improves palatability, Agnimandya, Jwar.

Sanshamani Vati



Best Jwaraghna aushadhi, Rasayan (Guduchi), Immunomodulator



Madhumalini Vasant

बलपुष्टिप्रदायकः बलमांसाग्निवर्धनः
Agnimandya, Dourbalya, Jeerna Vyadhi, Karshya



Draksha Kwath

Shita, Netrya, Bhruhani, Trishna, Jwar, Shwas, Kamala, Shosha,

Shishu Bharan Rasa ensures:

- Proper growth of the child
- Physical, mental and intellectual development
- Strong and Improved immunity
- Improved digestion in GIT disorders
- Relief from teething troubles such as Jwar, Atisar, Pratishyay, Kasa, Aruchi, Kshudhanash

सितोपलादिचूर्णं च तथा संशमनी वटीम्।
कुमारकल्याणयुक्तं मधुमालिनी संयुतम्॥
द्राक्षाक्वाथेन भावितः शिशुभरणरसः स।
वर्णायुः कान्तिदं श्रेष्ठं पुष्टिकृद्बलवर्धनम्।
बालानां वह्निकृच्चैव दन्तोद्भेदगदापहम्॥

अनुभूत

Age	Dosage & Anupan
Upto 2 years	: 1 tablet once a day with Honey
2 to 5 years	: 1 tablet twice a day with Cow ghee
Above 5 years	: 2 tablets twice a day with Cow milk

Shishu Bharan Rasa™

For All-Round Growth and Development

- Kasa
- Agnimandya
- Asthi kshay, Asthi mardav, Asthi vakrata
- Atisar, Malavshtambha, Chhardi
- Mamsa dhatu kshay
- Karshya



Note: Tablet is to be crushed before administration

Availability : 30 Tab. (Blister pack)



Shree Dhootapapeshwar Standards
SOS Monograph No. 1902634
Shishu Bharan Rasa



Difficult to Talk about... Get out that Gut feeling...!!!

According to the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD), diarrhoea is a global problem and is 8th leading cause of death among all ages, responsible for more than 1.6 million deaths.

Most common symptoms of intestinal diseases are diarrhoea and dysentery. These complaints disturb the individual's daily routine and are most of the times embarrassing. All age groups are affected by these symptoms and are among the most common complaints a patient present to the general practitioner. External factors like microbes, including bacteria and viruses are regarded as the main culprits for these symptoms. Mixed infections of bacteria and viruses result into complex physiological changes leading to watery stools. However, both diarrhoea and dysentery are self-limiting, which resolve in due course of time. This fact is well documented in Astangahrudya as follows:

दोषाः सन्निचिता ये च विदग्धाहारमूर्च्छिताः॥

अतिसाराय कल्पन्ते तेषूपेक्षैव भेषजम्।

भृशोत्क्लेशप्रवृत्तेषु स्वयमेव चलात्मसु।

न तु सङ्ग्रहणं योज्यं पूर्वमामातिसारिणि। - अष्टाङ्गहृदय ९ / २-४

This sutra highlights the importance of avoiding medicines which restrict peristaltic movements, allowing the stools containing the causative pathogens to get eliminated out of the body. Madhav Nidan has explained causative factors for Atisaar (diarrhoea) to be both internal as well as external. Madhav Nidan explains the same as follows:

संशम्यापां धातुरग्निं प्रवृद्धः शकृन्मिश्रो वायुनाऽध प्रणुनः।

सरत्यतीवातिसारं तमाहुर्व्याधिं घोरं षड्विधं तं वदन्ति॥ - माधव निदान

Madhav Nidan says that though external factors like Visha (toxins) and Krumi (pathogens) are responsible for diarrhoea, it is the internal factor i.e. Agnimandya, which allows these external factors to affect the body and results into symptoms of watery stools.

If the Agni is in equilibrium, the body resists these external pathogens by not allowing them to interact with body's internal environment. This fact corroborates with the recent research findings which highlight the concepts of anti-adhesion activity (reducing microbe's ability to colonize and invade host tissues), anti-quorum sensing activity (inhibiting bacterial cell-cell communication process) and anti-biofilm formation activity (prohibiting encased and structured aggregation of microbes) in protection against invading microbes of the gut.

The conventional line of treatment advocates use of antibiotics, killing the pathogen in the gut. However, it has been seen that repeated use of antibiotics to treat infections of the gut have resulted into bacteria developing antibiotic resistance. These antibiotics are ineffective against viruses and are of little help in complete management of diarrhoea and dysentery.

Antibiotics often lose the fight against smart microbes. However, age-old wisdom never fails in the battle against infections. Traditionally, Atisaar and Pravahika have been treated effectively, without the use of antibiotics. History reveals use of rice water for treating cholera epidemics in Bangladesh during the year 1970s without the use of antibiotics. Hence, management of diarrhoea, dysentery and irritable bowel syndrome can be effectively managed with the use of herbs which prevent the microbes from attacking the intestinal tract.

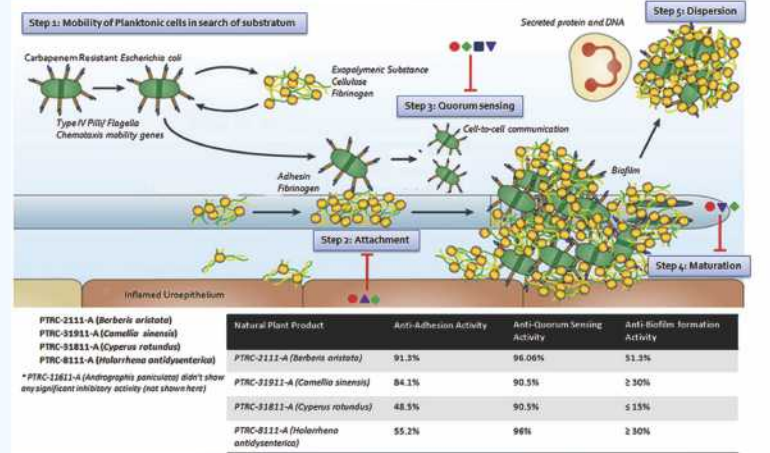
Kutaj Parpati Tablet is a combination of Kutaj, Musta, Shankha Bhasma and Kutaj Parpati. It is designed to take care of Agni and resist the pathogens responsible for diarrhoea and dysentery, keeping in view of principles given in classical texts.

According to studies published in the journal Microbial Pathogenesis, as recently as 2016, *Holarrhena antidysenterica* exhibits anti-adhesion, anti-quorum sensing and anti-biofilm activities. Thus, these researches prove the mechanism of action of Kutaj which has been used widely since ages to manage Atisaar and Pravahika. The above properties of Kutaj, resist the pathogens from breaking the structural and functional integrity of the bowel.

The methanol extract of *Cyperus rotundus* rhizome, administered orally at the doses of 250 and 500 mg/kg body weight, shows significant antidiarrheal activity in castor oil-induced diarrhoea in mice (Uddin et al. 2006).

मुस्तं साङ्ग्राहिकदीपनीयपाचनीयानाम्।

Musta relieves spasms during episodes of diarrhoea, in addition to its proven antimicrobial activity. Deepan, Pachan activity of Musta augments Agni thus, prepares the gastrointestinal tract to combat in the event of microbial infection.



Parpati's activity is given as ग्रहणीगजमर्दनदक्षतरा। It is known that formulations of Parpati are used in Grahani as they impart strength to Grahani or duodenum. Thus, providing protection to the internal health from various causative agents of diarrhoea, dysentery and irritable bowel syndrome.

Kutaj Parpati is an effective solution, in view of its wholesome approach in management of diarrhoea, dysentery and irritable bowel syndrome. It shall help strengthen the gastrointestinal tract and keep the menace of pathogens under check.

Ingredients	Properties
Kutaja Parpati	ग्रहणीगजमर्दनदक्षतरा। (पर्पटी)
Kutaja	कुटजत्वक् श्लेष्मपित्तरक्तसाङ्ग्राहिकोपशोषणानाम्।
Musta	मुस्तं साङ्ग्राहिकदीपनीयपाचनीयानाम्।
Shankha Bhasma	हिमः शीतो लघु पित्तकफास्रजित्।

Kutaj Parpati Vati in Clinical Practice

Effective in	Atisar, Pravahika, Grahani (Diarrhoea predominant IBS)
Dosage	1 to 2 tablets twice or thrice a day
Anupan	Kutajarishtha, Jeerakadyarishtha, buttermilk or lukewarm water

Prescribe the Best Four... Deprescribe unnecessary antimicrobials...

According to a new study published in the Journal of the Pediatric Infectious Diseases Society, unnecessary antibiotics prescribed often to infants with bronchiolitis can trigger unpleasant side effects and adverse reactions. These weapons to battle the infections though useful are blunt and provide little or no prophylactic protection. Rather they may injure the child's immune responses in the long run.

A shield is always mightier than sword

This calls for an approach, which is time tested and assures a strong defense against external environs. As far as child's health is concerned, it is wise to provide them with a shield instead of a sword. In other words, a treatment plan which shall augment child's defense mechanisms and always help in maintaining the structural and functional integrity of the systems repeatedly invaded by infections shall make a child healthier and strong.

Ayurved has given supreme importance for protecting health in childhood. Healthy childhood is the foundation for a healthy adolescence and disease free ageing. Swasthya Rakshan or preserving health has been the prime motive of Ayurved:

स्वस्थस्य स्वास्थ्यरक्षणं आतुरस्य विकारप्रशमनं।

For preserving internal health it is essential to protect body from external disease causing factors. External environment is 'Lok' and the body is 'Purush'. Lok and Purush are connected with each other through the channels of Prana-Anna-Udaka. i.e. respiratory and gastrointestinal system. Loka and Purush interact with each other through these channels. These two systems of the body are directly exposed to the external environment and fall prey to repeated invasions of allergens and infections.

It is essential to maintain structural and functional integrity of these two systems to prevent diseases due to external factors. External environmental factors like allergens, pollutants, infections, variable ambient temperature are responsible for disrupting internal health and causing diseases.

Human body possesses this in-built mechanism called 'immune system' which protects internal environment of the body.

Children, very frequently come in contact with these external environmental infections through inhalation, ingestion and buckle down with symptoms like cough, cold, stomach-ache, watery stools etc. Child's immune system is put under stress repeatedly to combat these common infections.

The need to empower the immune response of children to common infections of the respiratory and gastrointestinal tract is indeed the need of the hour.

Baby's Immunity Booster with the Best of Four

Baalchaturbhadrika syrup is a combination of four herbs: Pippali, Karkatshrungi, Musta and Ativisha, which have been widely used traditionally to protect the interface of Lok with Purush i.e. respiratory and gastrointestinal tract.

Pippali and Karkatshrungi protect the Pranavaha strotas; Musta and Ativisha protect Anna and Udakavaha strotas.

धासकासज्वरहरा वृष्यामेध्याऽन्निवर्धिनी।

जीर्णज्वरोऽग्निमान्द्ये च शस्यतेगुडपिप्पली।

कासाजीर्णारुचिश्चासहृत्पाण्डुकृमिरोगनुत्।।

Pippali has been traditionally documented to be very effective in management of respiratory tract disorders. Pippali has been described as a Rasayan and specifically for Pranavaha strotas.

शृङ्गी कषाया तित्कोष्णा कफवातक्षयज्वरान्।

श्वासोर्ध्वाततृत्कासहृत्पाण्डुकृमिहरेत्।।

Karkatshrungi is one of the ideal drugs for common disease of the children. The above sutra describes its efficacy against cough, cold, fever, breathlessness, etc. symptoms of respiratory infections and its protective effect on Pranavaha strotas. Recent researches proves its prophylactic efficacy in respiratory health.

मुस्तं कटु हिमं ग्राहि तित्कं दीपनपाचनम्।

कषायं कफपित्तास्रतृज्वरारुचिजन्तुहृत्।

मुस्तं साङ्ग्राहिकदीपनीयपाचनीयानाम्।।

Three functions of sangrahan, deepan and pachan complete the process of digestion. The digestive tract is affected in children due to unhealthy food habits resulting loss of integrity in the mucosal lining of the gastrointestinal tract leading to infections. Musta, is one drug which performs all the 3 above function restoring digestive health, protecting the mucosa and thus promoting digestive health.

विषा सोष्णा कटुस्तिक्ता पाचनी दीपनी हरेत्।

कफपित्तातिसारामविषकासवमिक्रिमीन्।

अतिविषादीपनीयपाचनीयसाङ्ग्राहिकसर्वदोषहराणाम्।।

Ativisha, being Deepani, Pachani, Sangrahi and Krumighna takes care of the digestive tract both therapeutically and prophylactically. Baalchaturbhadrika syrup with such potent herbs is a safe medicine for complete protection of child's health from respiratory and gastrointestinal disorders. Use of Balchaturbhadrika syrup shall see the attainment of below mentioned treatment outcomes in the long run.

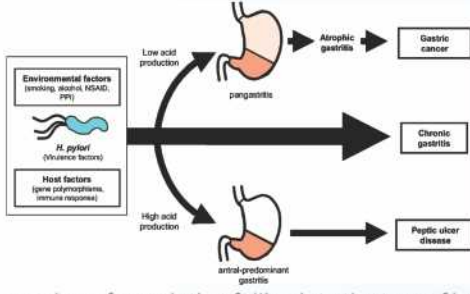
Balchaturbhadrika syrup offers following benefits:

- Strengthening host immunity
- Prevention and elimination of infection
- Reduction in duration and severity of symptoms
- Prevention of recurrent episodes/exacerbations
- Prevention of super infection/new infections
- Reduction in need of antibiotic/antipyretic use
- Reduction in number of emergency department visits/hospital admissions
- Reduction in school/work hour loss

Use of Balchaturbhadrika syrup in pediatric patients is recommended to avoid unnecessary antibiotic prescription. Let the child fight the infections with stronger immunity.

Healing Hyperacidity with Herbs

Pathophysiology of H. Pylori infection



Amlapitta (hyperacidity) has become a growing nuisance in today's fast paced modern lifestyle. **Curry, Hurry and Worry** have been linked directly to hyperacidity. Lack of rest, faulty food habits, smoking, tobacco, alcohol and stress have significantly resulted into large

number of population falling into the trap of hyperacidity. If not managed in time, it becomes chronic and results into complications like ulcers.

The common causes of hyperacidity are well known to all. However, research has highlighted the role of microbes like E. coli, E. histolytica and H. pylori in causation of Hyperacidity.

विरुद्धाध्यशनाजीर्णादामे च पूरणात्।

पिच्छन्नामपक्वानां मद्यानां गोरसस्य च॥

गुर्वभिष्यन्दिभोज्यानां वेगानां धारणस्य च ।

अत्युष्णस्निग्धरुक्षाम्लद्रवाणामतिसेवनात् ॥ – काश्यप संहिता

The causative factors as described in Kashyap Samhita are rich sources of H. pylori. H. pylori infection causes Amlapitta. Also, मद्य, अत्युष्ण causes are responsible for mucosal damage in Amlapitta. Because of mucosal damage the stomach and duodenal lining becomes more susceptible to H. pylori infection.

विड्भेदो गुरुकोष्ठत्वम्लोत्कलेशः शिरोरुजा।

हृच्छूलमुदराध्मानमंगसादोऽन्त्रकूजनम्॥

कण्ठोसरी विदह्येते रोमहर्षश्च जायते॥ – काश्यप संहिता

These symptoms of Amlapitta in Kashyap Samhita are in sync with the common symptom of H. pylori infestation like abdominal pain, nausea, loss of appetite, frequent burping, bloating, epigastric pain etc.

Contemporary management of H. pylori or other infections is done with the help of antibiotics. However, in the long run, the microbes develop resistance against antibiotics and render them useless. The disease when chronic, does not resolve with symptomatic treatment and calls for a management which is holistic in its approach.

A study in Journal of Antimicrobial Chemotherapy, 2018 gives the evidence of preventive and therapeutic potential of ellagic acid against H. pylori induced gastro-duodenal disease in humans.

Amlapitta Mishran provides a quick and long-lasting relief from Amlapitta (hyperacidity). Ingredients like Triphala are a rich source of ellagic acid which possesses H. pyloricidal activity. Similarly, ingredients like Guduchi, Yashtimadhu and Patola have been documented to contain ellagic acid, eradicate H. pylori and ameliorate its effect. Shouktik Bhasma helps neutralize acid secretion. Bhrungraraj regulates acid secretion as per needs. Yogratnakar mentions पाचनं तिक्तबहलं पथ्यं च परिकल्पयेत्। and advise use of Tikta dravyas in treating Amlapitta. Hence, Amlapitta Mishran also includes ingredients like Pittapaada, Nimba, Vasa and Chirayata which protect gastric mucosa and repair epithelial tissues.

So avoid **Curry, Hurry, Worry** and let nature overcome Amlapitta...!!!

Peptic ulcer is one of the most common form of gastric diseases. If left untreated it leads to serious complications like perforation and even cancer, which in the long run may prove fatal. Hence, prompt management of peptic ulcers is essential. Imagine a situation when the disease is dreadful and the treatment available is precarious. It's a condition rightly described by the phrase 'Out of the frying pan into the fire.' With this present scenario of management of peptic ulcers a large population is under potential health risk and calls for urgent remedial measures.

Acid hurts stomach and treatment hurts kidneys...!!

The conventional management of Acid peptic disorders include prescription of proton pump inhibitor (PPI). Article published as recent as March 2019, on study conducted at The University of Buffalo, makes a shocking revelation that use of PPIs is linked to kidney diseases.

David Jacob, the co-author quotes "Given the increasing global use of PPIs, the relationship between PPIs and renal disease could pose a substantial disease and financial burden to the health care system and public health."

Acid-peptic diseases are majorly caused by infection with the bacterium Helicobacter pylori or by use of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs).

The conventional line of treatment consists of anti-intra gastric acidity or pro-mucosal healing agents. It is superfluous, includes management of symptoms rather than the disease and lack prophylactic approach.

An ideal treatment plan must be target oriented and should have some outcome measures. The expected outcomes in the management of acid peptic disorders are as follows:

A. Primary outcome measures:

1. Reduce or eliminate troublesome symptoms such as acid regurgitation, burning, pain in abdomen, etc.
2. Improve gastric pH, appetite, digestion & prevent recurrent episodes

B. Secondary outcome measures:

1. Provide optimal pharmacotherapy with minimal or no adverse effects
2. Maintain normal activity levels

Pittashekhar a herbomineral formulation is designed to meet these outcome measures for managing acid peptic disorders. It is a perfect blend of following herbs and minerals taking care of all the symptoms associated with Acid peptic disorders.

Sootashekhar Rasa	Hyoscyamine in Dhatura is useful in spasms, peptic ulcers, irritable bowel syndrome, pancreatitis, colic etc.
Bilva Majja	Anti-ulcer, anti-H. pylori, gastro-protective
Aragvadh Majja	Decreases gastric acid secretion, protection of mucosal barrier, restoration of mucosal secretion, inhibition of free radicals.
Kalamegha	Deepan, Pachan, Pittashaman
Shankha, Shouktik, Kapardika Bhasma	Antacid activity, rich source of calcium carbonate.
Avipattikar Choorna	Decrease the volumes of the gastric contents, the ulcer score, length of the ulcer, the gastric irritancy index and pH.
Bhumyamalaki kwath Bhrungaraj Swarasa	Protection of Gastric Lining, anti-H. pylori activity



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