INTRODUCTION

ANUPANA:

A physician interacts or interferes with patient’s biological system with chemical substances called drugs. Such interaction is applied to cure or amelioration of diseases. The unique concept of Anupana is well explained as an adjuvant to therapeutic drugs in Ayurveda. Anupana is explained for food as well as for drugs or medicaments. The basis being modification of drug action by logical reasoning. The drug action depends upon Anupana.

In therapeutics it is noted that a single formulation is advocated in various diseases with specific Anupana. This determines that Anupana has the capacity to judge the action of a formulation. For e.g. In Snehana therapy, Ghrita has been prescribed with Ushnodaka as Anupana, similarly Manda for Taila. Most drugs produce effect by combining with biological receptors. The receptor theorem of Goldstein, Arnov, and Kalman states that: in general, a drug produces a particular effect by combining chemically with some specific molecular constituent (receptor) of the biological system upon which it acts. The function of the receptor molecule is thereby modified to produce a measurable effect. Drugs need to act selectively on specific receptors; otherwise they may damage the host. Anupana may modify the affinity of drug to a target tissue.

Concomitant with actions on biological systems, drug and Anupana interacts with each other producing a change in the effects of one or the other or both. When the effects are additive or supra-additive, the terms Summation and Potentiation (or Synergism) are applied.
Anupana increases the therapeutic index i.e. increases the gap between therapeutic efficacy and adverse effect. Untoward reaction to drugs occurs essentially for 4 reasons; allergy, intolerance, idiosyncrasy or adverse drug reaction. Selection of Anupana as reviewed in classics reveal that sheeta veerya dravya are advised along with Ushna veerya dravya or vice versa to counteract its adverse effects e.g. shodhita bhallataka with Ksheera. Pharmacological antagonism is evolved in the form of Anupana.

The factors that influence drug absorption involve diffusion and active transport through biological barriers majority of which are lipid in nature. Hence the degree of lipid solubility decides the degree of absorption. Factors governing the rate of absorption are; site of application and local blood flow, chemical alteration of the drug, use of a supporting media as Anu/ Sahapana. Ionized form of a drug is less lipid soluble and more water soluble than the non-ionized form. This may explain the rationale behind the prescription of Anupana of kashayas with guggulu kalpas.

Possible Drug-Anupana Interactions when orally administered:

- Influence on GI motility
- Direct interaction in blood and adjacent compartments
- Interference with the distribution or storage of drug.
- Interaction at the receptor.
- Modification of the metabolism of the drug by enzyme induction or inhibition of metabolism.
- Modification of excretion of one drug by another.
- Synergism or antagonism
- Anupana modifies Palatability, appetite, consumption of the drug.
And hence, Minor chemical modification in the form of Anupana of a drug may produce profound changes in its pharmacological activity.

Anupana is an integral part in the drug administration, which carries the drug to the site of action. Acharya Vagbhata commenting on Anupana explains that it restores Urja, produces contentment, spreads into the body fast and produces apt results. It aid’s in digestion and improves Agni karmukata. By this we can presume that Anupana by and large act on their guna pradhanyata or karma pradhanyata or veerya pradhanyata.

Not alone liquid dosage forms have been selected as Anupana but in classics we find various lehas, choornas that can be prescribed as Anupana. So this becomes a moot point to judge what exactly the Anupana and its role in therapeutics mean.

Till date there are no detailed data available on the study of role of Anupana in therapeutics. Many such formulations are available in classics for which more than one Anupana has been explained. One such formulation, which is easily available and aptly administered in clinics with successful results, is Yogaraja Guggulu explained in Sharangadhara Samhita, Yogaratnakara and Bhaishajya Ratnavali in the context of Amavata.

Detailed study about the Anupana in the therapeutics is essential to understand its importance. Hence the study has been undertaken.

**AMAVATA:**

Among the joint disorders Amavata is considered to be most serious, owing to its chronicity, crippling nature and pain. Amavata is distressing and frustrating ailment both for the patient and the physician as well. Due to exacerbation and remission, the serious nature of the disease is not appreciated initially which
ultimately leads to the deformities. Thus it has posed a challenge and has created a universal interest among physicians and research workers.

Amavata was first described as an independent disease in Madhava Nidana. It is a disease of Madhyama Roga Marga as it affects Sandhis and Hridaya Marma. Though Ama and Vata are the predominant pathogenic factors but the disease represents Tridoshic vitiation. The affliction of Sandhis by Vata dosha in association with Ama reflects the equal role of both Dosha and Dushya in the causation of this disease. Moreover, the chief pathogenic factors, being contradictory in nature pose difficulty in planning the line of treatment.

As Amavata is rasavaha, srotojanya vikara & Mandagni is considered as an important contributory factor for its Aetiopathogenesis, the principal treatment of Amavata as described in classics is based on “Langhan”, “Deepan”, & “Pachana” of apakwa Amarasa.

The changes in lifestyle, food habit, pace of life etc. have kept on contributing a number of new diseases, which have become a challenge for the human race. Similarly diseases that were not that common have become the burning problem of society as well as the medical community. Rheumatoid arthritis is one of such diseases.

Rheumatoid Arthritis is one of the commonest joint disorders. It is a chronic systemic inflammatory disorder that affects many tissues and organs – skin, blood vessels, heart, lungs, muscles, but principally it affects the joints producing the non-suppurative proliferative synovitis that often progress to destruction of the articular cartilage and ankylosis of the joints. Although the cause for Rheumatoid Arthritis
remains unknown it is believed that auto-immunity play a pivotal role in its chronicity and progression.

Rheumatoid Arthritis is a common clinical entity afflicting nearly 1% of world’s population. The reported prevalence of Rheumatoid Arthritis in adults varies from 0.5% - 3.8%, with an annual incidence 5% of women and 2% of men. Rheumatoid Arthritis can be compared with Amavata as described in ayurvedic classics. Amavata is a one among such disease that was not dealt with that importance in the ancient classics but described in detail since 7th century A.D.

No doubt modern system of medicine has got an important role to play in overcoming agony of pain, restricted movement and disability caused by the articular diseases. Simultaneously prolonged use of modern medicines are not only giving rise to many side effects, toxic symptoms and adverse reactions but also more serious complications like organic lesions etc. are caused by them.

Ayurveda today is recognized worldwide as a system of medicine that provides sound mind in sound body. This traditional system of medicine of India has an un-enviable position in the field of providing remedies for the ailments, as it provides satisfactory answers to all the problems the world is facing today. The development of science greatly depends upon experimentation to reveal the mysteries of nature and to confirm the previous innovation. To confirm the efficacy of the drug, though experimental study plays an important role, yet a study remains incomplete unless it is supported by clinical trials. Thus the data obtained from the clinical study is useful in ascertaining the beneficial effect seen in experimental study. In addition certain sign and symptoms like the sense of well-being and dejection can be assessed only in human beings. Hence the clinical study adds and confirms the findings of the experimental study.