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Srotogamitva and drug delivery system a conceptual study

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Abstract

SrotoGamitva refers to channelization or movement of substance through different channels of the body. *Gamitva* is a Sanskrit word made from *Gama* Dhatu which shows action of going on a particular site. *Srotas* serve as site of product delivery on to the local on of need. *SrotoGamitva* of Aahar dravya ensures movement of Aahar through Annavaha *srotas* (Digestive system) which signify normal Sharir kriya (physiology) of the body .Movement of Rasa Rakta through human body also signifies *SrotoGamitva*. For this movement *Vata dosha* is responsible. Vitiated *vata dosh* will cause excessive movement of *sara* and *kitta* (essential and nonessential)substances of body. In *Dravyaguna* (Indian Pharmacology) we need to put light on single drug and its

panchabhautik constituent and binding capacity of a drug to desired Dhatus. Exact idea behind *Gamitva* need to solve scientific needs such as *Pharmokinetics* and pharmacodynamics, site of action. Present study is to conceptualize *SrotoGamitva* and mode of action of drug particular Dhatu.

Keywords: *SrotoGamitva*, *Dhatu*, mode of action of drug

INTRODUCTION *SrotoGamitva* refers to channelization or movement of substance through different channels of the body. *Gamitva* is a Sanskrit word made from *Gama* Dhatu which shows action of going on a particular site. *Srotas* serve as site of product delivery on to the local on of need. *SrotoGamitva* of Aahar dravya ensures movement of Aahar through Annavaha *srotas* (Digestive system) which signify normal

Sharir kriya (physiology) of the body .Movement of Rasa Rakta through human body also signifies *SrotoGamitva*. For this movement *Vata dosha* is responsible. Vitiated *vata dosh* will cause excessive movement of *sara* and *kitta* (essential and nonessential) substances of body. In Dravyaguna (Indian Pharmacology) we need to put light on single drug and its *panchabhautik* constituent and binding capacity of a drug to desired Dhatus. Exact idea behind *Gamitva* need to solve scientific needs such as *Pharmokinetics* and pharmacodynamics, site of action. Present study is to conceptualize *SrotoGamitva* and mode of action of drug particular Dhatu.

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SrotoGamitva is broad concept it can be considered in physiological aspects. Movement of essential substances in the body such as, Movement of *kawal* (bolus). *Rasaraktabhisaran* (blood circulation) normal functions of the body. *SrotoGamitva* In context of Dravyaguna refers to ability of drug or a substance to act upon a particular *srotas*, or dhatu Like each *rasa* has affinity to certain *srotas* *Madhur* (sweet) *rasa* acts on *rasavaha* and *shukravaha srotas*, *Tikta Rasa* cleanses *Raktavaha* and *Medovaha srotas*.

This concept can be compared with binding of drug, whether the drug is protein binding or plasma binding (*scrota's* In Ancient texts quotes mode of action of drug with *rasa Virya* and *Vipaka and Prabhava* of a particular drug.¹

Conceptual study

Health perspective and *SrotoGamitva*

SrotoGamitva emphasizes the efficient transportation of substances through the body channels Transportation of *rasa Rakta* and conversion of *Aahar rasa* into specific *Dhatu* is specific interrelation between *Kedarkulya nyay* and *SrotoGamitva* Similar and dissimilar property like Milk is similar to *Oja* and hence called as *Ojogami* .Similarly *Visha dravya* are also *ojogami* but it destruct the *Dhatu* and *upadhatu*.².

Gamitva and organogenesis

In order to understand the concept of *Gamitva* the chapter relating to development of organ in a fetus given in the Sharir Sthana of Sushrut Samhita ,Would be helpful .It is important that whenever mention is made of any dhatu at same time the organ developing from particular dhatu as its *srotas* must be kept in perspective .For example in lung diseases we must consider *Rakta dhatu* because in gestation period lungs are formed from the *Rakta dhatu* .In similar way liver and spleen have close relation with *Rakta dhatu*

,In raktajanya diseases *Raktasruti* (Bloodletting) is one of the Principal remedies .Also those drugs which are Rakta gami prove useful .This prove from” *Plihamaye pippali*”³ Acharya Susruta explained the development of organs in *Susrut Sharirsthan*. When a Vaidya is treating a disease, Utpatti of that particular dhatu must kept in mind like. In *Vrikka* kidney Disease it is very important to think about *Rakta Dhatu* because the kidneys are formed from *Prasad bhag* of *rakta* and *meda*.² “*Rakta meda prasadat vrukko*” (*Su sharir sthan Adhyay*)

Gamitva of drugs related to Panchakarma

Vaman and *Virechan* are two methods of *shodhan* where *UrdhwaGamitva* (upper side motion) and *AdhoGamitva* (Motion to lower side) of drug induce successful *shodhan* of Body. Ex (*MadanphalaRandia spinosa*) *Jayapal*

Modern drug delivery systems aims to ensure the precise, efficient, and controlled delivery of therapeutic agents to targeted sites within the body. Just as *srotas* in Ayurveda are the channels for carrying nutrients and waste. Drug delivery systems ensure proper distribution of drugs in the body. The efficiency of drug delivery depends on factors like absorption, distribution, metabolism, and excretion, To comprehend the principle of *SrotoGamitva* can guide the development of

targeted delivery systems that bag specific tissues, organs .In indigenous system of medicines understanding of Dhatu-specific delivery (targeting body tissues). Functioning of *Srotas* Nanotechnology and mode of action of Nano particles ensure targeted drug delivery to specific cells or tissues, which enhancing therapeutic efficiency of drug and minimizing the side effects. Controlled-Release Systems which mimic the regulated flow of substances through *srotas*, ensuring constant drug levels in the body.

Concept of Gamitva in Kushth Chikitsa

Dravyas used in *sidhma kushta* and *Padmakalak* act on *Avabhasini* layer that is first layer of the skin, these *dravyas* have *Gamitva* to first layer of skin⁴ (Ex. *Kushtha*, *Tamalpatra Manashila*) .Similarly drugs used in *Tilakalak*, *vyanga* and *Nyacha* have *Gamitva* on second layer of skin (Example *Nagkeshar*, *Jatiphala*⁵) etc. *Dravyas* used in *Charmadal kushta* act on third layer; Similarly *Kilas kushta* is associated with Fourth layer Similarly some drugs act on *Shleepad* (Filariasis) Some drugs used in *kshar karma* act on innermost layer of the skin.

Conclusion

Ayurvedic preparations like *Arishtas*, *Bhasmas*, and *Kwathas* are formulated to optimize *SrotoGamitva*, ensuring

bioavailability and efficient absorption, similar to the goals of modern drug delivery systems. In conclusion, *Srotogamitva* offers a conceptual framework that aligns with modern *pharmacokinetics* and drug delivery mechanisms, bridging traditional Ayurveda with contemporary science. Further study regarding *Srotogamitva* and basic concepts needs to be done

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