CONCEPTUAL STUDY OF SUSHRUTOKTA AVAYAV UTPATTI SIDDHANTA

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ABSTRACT
Sushruta is perfect in anatomy. Sushruta has described Avayav Utpatti Siddhanta in sharirsthana. Various soft organs are formed by dosha and dhatu. This unique concept of organogenesis is very important and useful in nidan and chikitsa aspect. For example yakruta and pleeha are made of Rakta dhatu this indicates vitiation of Rakta dhatu results in yakruta and pleeha dushti. The organs and etiological factors show anatomical, physiological and embryological co relation.

Key words – Avayav Utpatti, Sushruta, organogenesis.

INTRODUCTION:Detailed knowledge of Sharia is important for treatment purpose hence successful vaidya always praises knowledge of sharira1. Sushruta is said to be perfect in anatomy. Mainly knowledge of anatomy is found in sharirsthana of samhita. The concepts like shukra, shonita, garbha, marmas are described in various chapters of sharirsthana.

The union of shukra and shonita in garbhashay along with atmaa is known as garbha2. Embryology is modern branch of anatomy which deals with from fertilization to development of fetus. Sushruta described Avayav Utpatti Siddhanta in sharirsthana adhyay 4. Formation of various soft organs is described on basis of dosha and dhatu. This concept of organogenesis is very important and can be applied for nidan and chikitsa.

MATERIALS & METHODS :The literature study was performed regarding this concept. In Ashtang Sangraha Sharirsthana3 similar concept is seen, but this description resembles to Sushruta. Kashyapa Sharirsthana4 also states about formation of various organs but unfortunately this description is incomplete. Sushruta has mentioned formation of yakruta, pleeha, phuphusa, unduka, antra, guda, basti, jivha, vrukka, vrushrana and hrudaya5. All these soft organs are described according to etiological factors. Mainly dosha and dhatu combine to form the various organs. The mentioned organs were studied in detail with respect to anatomy, embryology, physiology and various references from ayurvedic texts.

Main aim was to correlate organ with given dosha and dhatu.

DISCUSSION:
Yakruta: yakruta is formed by Rakta dhatu. Liver is considered as yakruta. Liver formed by Endoderm. It performs mainly functions with blood.
Pleeha: Pleeha is formed by Rakta dhatu. Spleen is considered as pleeha. Spleen formed by Mesoderm. Spleen is store house of blood.
Phuphusa: It is made up of Rakta and Phena. Lungs are considered as phuphusa. Phena means bubbles or froth. The smallest unit of lung is alveoli resembles with bubble. Also it is site of oxygen exchange. Hence it can be correlated with Rakta and Phena

Unduka: It is formed by Rakta and Kitta. Caecum considered as unduka. Unduka is part of ascending colon. Maladhara kala is present at and surrounding of Caecum. Kitta means mala. Pitta is mala of Rakta which mainly performs function of absorption.

Antra, Guda & Basti: Formed by Shleshma, Shonita, Pitta and Vayu. Intestine considered as antra, rectum as guda and urinary bladder as basti. Anatomically rectum is terminal part of colon and bladder is different organ. Embryology explains this correlation.

The hindgut gives rise to distal part of transverse colon, descending sigmoid, rectum and anal canal. The endoderm of hind gut also forms internal lining of bladder and urethra. The caudal part of hind gut is divided by urorectal septum into rectum and anal canal posteriorly and urinary bladder and urethra anteriorly.

Jivha: It is formed by Kapha, Rakta and Mansa. Tongue considered as jivha. Tongue is muscular organ consisting muscles also highly vascular covered by taste buds for taste sensation. Muscles, Vessels and sensory buds can be co related with Mansa, Rakta and Kapha.

Vrukka: It is formed by Rakta and Meda. Kidneys are considered as vrukka. Kidneys are Mesodermal in origin. Kidneys are embedded in fat also they filter blood. This can be correlated with Rakta and Meda.

Vrushana: Formed by Rakta, Kapha, Mansa and Meda. Testes are considered as vrushana. Testes are Mesodermal in origin. Spermatogenesis function of testis can be correlated with kapha. Three layers of Testes can be correlated as follows

| Tunica vaginalis | Meda |
| Tunica albugenia | Mansa |
| Tunica vasculosa | Rakta |

Hrudaya: Is formed by Rakta and Kapha. Heart considered as hrudaya. Heart is Mesodermal in origin. Heart is blood pumping organ.

Conclusion: The organogenesis mentioned by Sushruta was studied and on basis of etiology. The correlation of organ with corresponding dosha and dhatu was attempted on basis of anatomy, physiology and embryology.

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<th>Organ</th>
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<th>Embryological origin</th>
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<tbody>
<tr>
<td>Yakruta</td>
<td>Rakta</td>
<td>Endoderm</td>
<td>Kamala, hepatomegaly</td>
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<tr>
<td>Pleeha</td>
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<td>Phuphusa</td>
<td>Rakta + Phena</td>
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</tr>
<tr>
<td>Unduka</td>
<td>Rakta + Kitta</td>
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<tr>
<td>Antra</td>
<td>Kapha + Rakta + Pitta + Vayu</td>
<td>Endoderm</td>
<td>Arsha</td>
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<tr>
<td>Guda</td>
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<td>Basti</td>
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</table>
Jivha | Kapha + Rakta + Mansa | Endoderm
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Vrushana | Kapha + Rakta + Mansa + Meda | Mesoderm
Vrukka | Rakta + Meda | Mesoderm | DM, Diabetic nephropathy
Hrudaya | Rakta + Kapha | Mesoderm | Cardiovascular diseases

- Since all these are internal organs they show embryological origin by Mesoderm or Endoderm
- All organs have Rakta as common etiological factor in common.
- Organs like Phuphusa, Yakruta Jivha, Antra, Guda and Basti have endodermal origin. All these organs show Kapha dominance.
- Organs like Pleeha, Unduka, Vrushana, Vrukka and Hrudaya share Mesodermal origin. These organs show Pitta dominance.

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