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Sangatmak Vikriti (Gall Stones) In Ruddhapath Kamala (Obstructive Jaundice) By Evaluating CT Abdomen.

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Abstract

Kamala is *Pittaja Nanatmaja* as well as *Raktapradoshaja* Vyadhi. Kamala has been classified as *Koshthasrita (Bahupitta Kamala)* and *Shakhasrita (Ruddhapath Kamala). Ruddapatha Kamala (Shakhashrita Kamala)* is produced due to the obstruction of normal *Pittavaha strotas* by Kapha and Vata, resulting in *Pitta vridhi* in the *Rakta dhatu.Kamala* can be correlated with jaundice in modern medical science according to their resemblance in signs & symptoms. In a CT scan, obstructive jaundice *(Ruddhpath kamala)* appears as dilated bile ducts within the liver and along the common bile duct (CBD). A CBD diameter greater than 10 mm suggests dilation, indicating obstruction, and the scan will also reveal the location and potential causes of the blockage, such as a mass, gallstones, or inflammation.

Keywords: *Ruddhapath Kamala*,Obstructive Jaundice,CT Abdomen

Introduction :

Ayurveda is the oldest system of medicine and philosophy of life. The aim of this science is to maintain *Swasthya* through *Swasthavritha* & protect human beings from various diseases. In Ayurveda, *Trividha* Pariksha refers to the three-part examination method of Darshana (inspection), *Sparshana* (palpation and percussion), and *Prashna* (questioning/interrogation) used to diagnose diseases and assess the patient's *condition.Kamala* is *Pittaja Nanatmaja* as well as *Raktapradoshaja* Vyadhi.[1] *Charakacharya* has considered kamala as advanced stage of *Panduroga*. *Sushrutacharya* has considered kamala as a separate disease and also may be due to further complication of *panduroga.Vagbhatacharya* described kamala as a separate disease. Kamala can be correlated with jaundice in modern medical science according to their resemblance in signs & symptoms. [2] Kamala has been classified as *Koshthasrita* (*Bahupitta* Kamla) and *Shakhasrita* (*Ruddhapath* Kamala).In modern science jaundice is classified in three types *Haemolytic*, Obstructive, Hepatocellular.[3] *Ruddapatha* Kamala (*Shakhashrita* Kamala) is produced due to the obstruction of normal *Pittavaha Strotas* by kapha and *vata*, resulting in Pitta *vridhi* in the Rakta dhatu. In obstructive jaundice, there is same mechanism in which the bile ducts are obstructed by Gall stone or other causes and bile is accumulated in liver, resulting in elevation of blood bilirubin level responsible for yellowness of eye, skin, mucous membrane and stool become clay *coloured* due to lack of bile in the intestine. [4] In a CT scan, obstructive jaundice (*Ruddhpath kamla*) appears as dilated bile ducts within the liver and along the common bile duct (CBD). A CBD diameter greater than 10 mm suggests dilation, indicating obstruction, and the scan will also reveal the location and potential causes of the blockage, such as a mass, gallstones, or inflammation. [5] According to Charakacharya, Kamala is a clinical syndrome which develops after the Pandu *Roga*. When a patient of Pandu *Roga* takes excessive *Pittakar* Ahara vihara develops *Bahupitta kamala.According* to Sushrutacharya, when patient of Pandu *Roga* or person affected with other diseases consumes Amla Ras Pradhana and *Apathyakara ahara* develops kamala.

Hetu (Nidana) of *Ruddhaptha* kamala :

1.Excessive intake of Ruksha, Shita, Guru and Madhur Ahar. (unwholesome diet)

2. Ati *Vyayam* (excessive exercise)

3. Vega Nigraha (stoppage of natural urges).

Hetu Sevan

↓

Vata and Kapha *Prakopa*

↓

Ruksha Guna Pradhan Vata Dosha gets *Kaphasammurchita*

↓

Obstruction of Pitta Nalika

↓

Obstruction of Passing of Pitta in *Kostha*

↓

***Vimarggamana* of Pitta all over the body**

↓

Haridra *Twacha,Netra* & Mutra

↓

***Ruddhapatha* Kamala**

Samprapti

According to Ayurveda Kapha Sammurchito Vayu involved in pathogenesis of *Ruddhapath Kamala.Normal* Kapha Gunas *i.e Snigdhata,Shlakshnata,*& *Mrutsnata* mainly get vitiated in *Ruddhpath kamla* causing obstruction to Pitta Vahan *Karm.Due* to this Samanya Pitta cannot function in *Annavaha Strotas* & appears *aggrevated* in *Shakha* (*Koshtha*).

***Ruddapatha* Kamala Lakshanas :**

Haridra Netra, Haridra Twaka, Haridra Mutra, Shweta *varchas*,

Tilapishta varchas, *Aatopa*, *Vishtambha*, Hridaya Guruta, *Daurbalya*, *Alpagni*, *Parshwa* Arati, *Hikka*, *Shwasa*, *Aruchi*, *Jwara*.

Modern View of Obstructive Jaundice :

Obstructive jaundice occurs when there is blockage of bile flow from the liver to the intestine, leading to retention of bile pigments in blood.

Clinical Features :

1) Yellow discoloration of skin, sclera, mucous membranes (Pitta-*Varnata*)
2) Dark urine (bilirubinuria)
3) Pale/clay-colored stools *i.e* absence of stercobilin (Shweta *Varchastwam*)
4) Abdominal Pain (*Atopa*)
5) Weakness (*Daurbalya*)
6) *Jwara* (Fever)

Computed tomography (CT scan or CAT scan) is a non-invasive diagnostic imaging procedure that uses a combination of x-ray and computer technology to produce horizontal, or axial, images (often called slices) of the body. A CT scan shows detailed images of any part of the body, including the bones, muscles, fat, organs, and blood vessels. CT scans are more detailed than standard X-rays. [6]

CT scans of the abdomen can provide more detailed information about abdominal organs and structures than standard X-rays of the abdomen, thus providing more information related to injuries and/or diseases of the abdominal organs. [7]

In a CT scan, obstructive jaundice (*Ruddhapath* kamala) appears as dilated bile ducts within the liver and along the common bile duct (CBD). A CBD diameter greater than 10 mm suggests dilation, indicating obstruction, and the scan will also reveal the location and potential causes of the blockage, such as a mass, gallstones, or inflammation.

Aim:

To evaluate the correlation between radiological features observed on CT Abdomen and the Ayurvedic concept of *Ruddhapath* Kamala.

Objective:

1)To study and correlate *Ruddhapath* Kamala with obstructive jaundice in details.

2)To study CT Abdomen findings in *Obtructive* jaundice in details.

Inclusion Criteria :

1. Diagnosed patient of Obstructive Jaundice.
2. Patient selected irrespective of religion , sex , occupation , socioeconomic
3. Status.

Exclusion Criteria :

1. Patient having Systemic diseases like Uncontrolled Diabetes ,Hepatitis , Other metabolic disorders and other severe systemic diseases.

Subjective Criteria :

1. Pita-*Varnata* (Yellowness of *Netra,Mutra,Twacha*)
2. *Daurbalya* (Weakness)

3. *Jwara* (Fever)
4. *Atopa* (Abdominal Pain)
5. *Aruchi* (Loss of Taste)
6. *Agnimandya* (Loss Of *Apetite*)
7. Swetha *Varchastwam* (Clay-*coloured* stool)

Objective Criteria :

1. CT Abdomen

Assessment Of Subjective Criteria :

1.Pita-Varnata (Yellowness of Netra, Mutra, *Twacha*)

Grade	Pita-*Varnata* (Yellowness of Netra, Mutra, *Twacha*)
1	Mild yellowish *discolouration*
2	Yellowish *discolouration*
3	Dark yellowish *discolouration*

2. *Daurbalya* (Weakness)

Grade	*Daurbalya* (Weakness)
1	Mild weakness after routine work
2	Performed routine work with difficulty
3	Cannot perform routine work

3. *Jwara* (Fever)

Grade	*Jwara* (Fever)
1	slight rise of body *temperature,minimal symptoms,easily* manageable
2	Persistent fever with weakness and loss of *apetite*
3	high grade persistent fever with severe burning and delirium.

4. *Atopa* (Abdominal Pain/Bloating)

Grade	*Atopa* (Abdominal Pain/Bloating)
1	Slight fullness with *Pain,discomfort* after meals
2	Regular bloating with *heaviness,distention* with moderate pain not relieved easily.
3	Constant abdominal *distension,pain,inability* to digest food.

5. *Aruchi* (Loss of Taste)

Grade	*Aruchi* (Loss of Taste)
1	Occasional aversion to food
2	Persistent *tastelessness,reduced* food intake
3	Complete loss of desire for *food,associated* with *nausea,aversion* even on seeing food.

6. *Agnimandya* (Loss Of Appetite)

Grade	*Agnimandya* (Loss Of Appetite)
1	Slight delay in *digestion,reduced apetite*
2	Persistent loss of *apetite* with abdominal heaviness
3	Almost absent *digestion,complete* anorexia

7. Swetha *Varchastwam*

Grade	Swetha *Varchastwam*
1	Slightly pale stool
2	Persistent pale/clay – *coloured stool,loss* of natural yellow *colour*.
3	Completely whitish or clay like stools.

Assessment Of Objective Criteria :

Grade	CT Findings	Interpretation
Grade I. – Mild	Slight intrahepatic duct dilation, CBD 7–9 mm	Early or partial obstruction
Grade II – Moderate	Moderate intrahepatic dilation, CBD 10–15 mm	Established obstruction
Grade III – Severe	Marked intrahepatic dilation, CBD >15 mm, upstream liver changes	Long-standing or high-grade obstruction

Methodology :

Study type : An Observational Study.

Study Design :

Diagnosed patient of *Ruddhapath* kamala

⇓

Patient enrolled in study and written informed consent obtained

⇓

Patient assessed for subjective and objective criteria

⇓

Obtained data correlated

⇓

Discussion

⇓

Conclusion drawn

Study Design

Case Study :

Patient Information:

Name: XYZ

Age: 43 years Sex: Male

History of present illness :

A 43 years old male patient having complaints of Yellowish *discolouration* of Eyes, skin, fever, *generalised* weakness, loss of *apetite,abdominal* discomfort with reduced food intake and loss of natural yellow *colour* of stool since last 6-7 days. he had taken allopathic medication but did not get satisfactory relief hence admitted in *Ayurved Rugnalaya.*

Past History :

No any h/o DM/HTN and other metabolic disorders.

General Examination :

- **Built :** Moderate
- **Height :** 172 cm
- **Weight :** 64 kg
- **Blood Pressure :** 130/80 *mmhg*
- **Pulse Rate :** 86/min
- **Respiratory Rate :** 20/min
- **Icterus :** Present.

Systemic Examination :

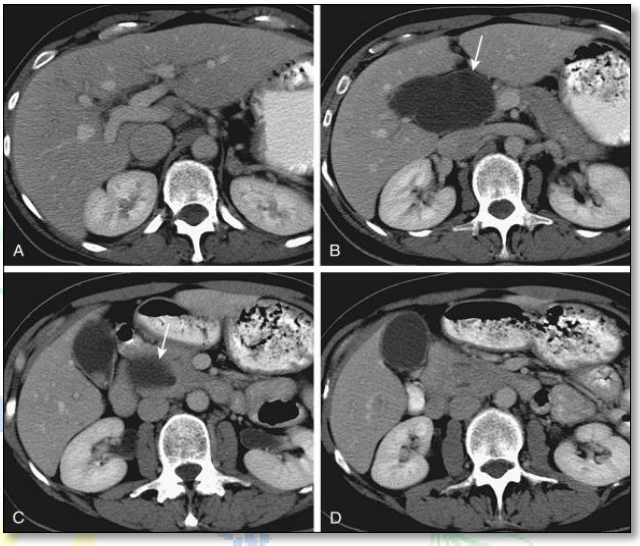
- **CVS –** S1S2 *Normal,No* added sound
- **RS –** Normal vascular breathing sounds
- **CNS –** *consiouss* well oriented
- **P/A –** Mildly *distented* with Tenderness in Right Upper Quadrant.

Observations:

Subjective Criteria	Observation In Patient	Grade
Pitta-*Varnata* (Yellowness of *Netra,Mutra,Twacha*)	Yellowish *discolouration* of *Eyes,skin* since 6 Days	2
***Daurbalya* (Weakness)**	*Generalised* weakness with difficulty to perform routine work.	2
***Jwara* (Fever)**	Persistent fever with weakness and loss of *apetite*	2
***Atopa* (Abdominal Pain/Bloating)**	Abdominal *fullness,regular* bloating with Moderate Pain and discomfort after meals	2
***Aruchi* (Loss of Taste)**	Reduced food intake since 6-7 days	2
***Agnimandya* (Loss Of *Apetite*)**	Loss of *apetite* since last 6-7 days.	2
Swetha *Varchastwam* (Clay- *coloured* stool)	Clay *coloured* stool from last 5 days.	2

CT Abdomen Findings:

Observation In Patient	Interpretation	Grade
Moderate intrahepatic dilation, CBD 10–15 mm	Established obstruction.	2



Discussion :

Ruddhapath Kamala, though described in ancient Ayurvedic texts, continues to have relevance in modern pathology. Ayurveda perceives diseases through *Doshic* and Dhatu-based alterations. Radiological science, particularly through tools like CT Abdomen, gives a clear visual access to such *pathologies.This* interdisciplinary evaluation allows several key insights:

a. Holistic Understanding of Pathology

Ayurveda identifies the root cause through *Doshic* imbalance and tissue dysfunction. Modern imaging identifies the location, size, and extent of pathology. Together, they offer a complete view — internal cause and external manifestation.

b. Importance of Vata, Kapha and Rakta *Dushti*

Yakruta is *Moolasthana* of *Raktavaha Srotas*. In kamala *Vyadhi* kha *Vaigunya* at *Yakrut* causes *Avarodha* (*Sangatmak vikruti*) of *Srotas* due to Kapha Vata *Sammurchana.Modern* imaging identifies the location, size, and extent of *Sangatmak* Vikruti. Together, they offer a complete view — internal cause and external manifestation.

c. CT Abdomen Role in Ayurvedic Practice

Though Ayurveda does not originally include imaging, modern practitioners can adopt CT Abdomen as a supportive diagnostic tool to visualize *Shotha,Ashmari* -like conditions. This brings better documentation, prognosis, and cross-referral with modern *medicine.CT* useful in *Sthanastha* Dhatu Vikruti & *stage,pathogenesis* can be clearly seen with the help of CT and it helps for better understanding of disease through Ayurvedic perspective.

Conclusion :

The correlation of *Ruddhpath* kamala — a classical Ayurvedic concept of obstruction in normal *Pittavaha Strotas* by Kapha and Vata — with radiological findings seen on CT Abdomen images opens a new realm in diagnostic integrative medicine. CT Abdomen serves as a modern extension of Darshana Pariksha, offering visual confirmation of *Doshic* changes described in Ayurvedic *texts.This* approach not only increases clinical clarity for Ayurvedic practitioners but also fosters interdisciplinary respect and communication. Through conceptual understanding, clinical pattern recognition, and modern radiological validation, *Ruddhpath* kamala can be interpreted, managed, and researched with greater depth and *evidence.The* future lies in embracing tools like CT Abdomen as supportive, not contradictory, to Ayurvedic thought — thereby building a bridge between Shastra and Science.

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