

CRITICAL ANALYSIS OF SPUTUM AS LAKSHANA IN RELATION TO PRANAVAHA AND NON-PRANAVAHA SROTO VIKARA

Dr. Mahamad Yunus

Assistant professor Dept. of P.G Studies in Roganidana Shri.J.G.C.H.S.Ayurvedic Medical College Ghataprabha. Karnataka, India

ABSTRACT

Ayurveda is a well-known science of life, because of its three principle objectives; *Swasthasya Swasthya Rakshanam* (To prolong life and promote perfect health), *Aturasya Vikara* (To completely know the disease) and *Vikara Prashamana* (To completely eradicate the disease). *Roganidana* is a unique department of *Ayurveda* mainly deals about different diagnostic parameters to surmount the *Aturasya vikara* by means *Roga* and *Rogi pareeksha* (Examination of Patient and Disease). The examination of Sputum (*Steevana/Kapha*) plays an important role, mainly in the diagnosis of systemic disorders like *Pranavaha sroto vikara* (Respiratory diseases). Even though *steevana pareeksha* is not explained separately but the concept of examination of sputum comes under the umbrella of *Darshana/Pratyaksha pareeksha* (Inspection). Sputum revealed the diagnosis based on its consistency, colour, odour and quantity etc, so one should thoroughly eyes at the sputum for its examination and clinical implication for the contention of particular diagnosis.

Keywords: Sputum, *Steevana*, *Aturasya vikara*, *Pranavaha srotas*, *Darshana*

INTRODUCTION

Ayurveda is not only a subjective diagnostic, but it also a well-established objective oriented diagnostic science of life. As it is explained various unique diagnostic tools like *Nidanapanchaka* (Five means of diagnosis), and *Vivida pareeksha* (Various folds of examination). The examination of sputum carries a great value in the diagnosis of *Pranavaha sroto vikaras* like, *Rajayakshma*, *Urakshata*, and *Kaphajakasa* etc, and non-*pranavaha sroto vikaras* (non-respiratory) like, *sannipatajajwara*, *kaphajapandu* and *jarashoshi* etc. Physical examination of sputum plays an important role, as if sputum is creamy, white or clear, the yield from bacteriologic analysis is extremely low¹. So by considering importance of *steevana pareeksha* one should thoroughly look at the sputum for the evaluation of accurate diagnosis.

Collection of Sputum:

Collect the sample by asking patient to cough deeply and spit in a sterile cup in the early morning for the better evaluation of different qualities like Physical (*Dravayata/Doshata*), Chemical (*Gunata*) and Microbiological (*Sukshmata/bhootata/krimija*)

Normal sputum:

It is clear, odourless, opalescent tracheobronchial secretion, contain an about 95% water (*jala*) and 5% of solids (*prtvibhoota*) mainly carbohydrate, protiens, lipids (*bhootamshas*) etc with variable quantity.

Glance at Sputum:

Acharyas while mentioning sputum as a clinical feature they used different words like, *steevan*, *kaphapraseka*, *kapha* and *kaphasamsrava*. After critical analysis of various diseases of *pranavaha* and non-

pranavaha srotas in relation to sputum, the word *steevana* is more convenient to indicate the act of expectoration than sputum and *kaphapraseka*, *kapha* and *kaphasamsrava* is sputum based on its consistency, frequency and quantity etc.

For the sake of accurate diagnosis of various *pranavaha* and *non-pranavaha sroto vikara* in relation to sputum we can draw the probable conclusion on different types of sputum (shown in table no: 1)

Table no: 1 showing probable feature of different types of sputum

Types of Sputum	Probable Features
<i>Kaphapraseka</i>	Watery/purulent/scanty to moderate
<i>Kapha</i>	Mucoid/Moderate to large
<i>Kaphasamsrava</i>	Mucoid/Mucopurulent/Moderate to copious

Differential Diagnosis:

The various diseases of *pranavaha* and *non-pranavaha srotas* as the result of *Doshavaishmya* (Vitiation of dosha), *Samadosha* (Amalgamation with *Ama*) and *Srotovaishmya* (Vitiation of Channels) etc, They show various features according

predominate of dosha through sputum and other secretions of the body, among these sputum plays an important role to differentiate *pranavaha* from *non-pranavaha sroto vikara*.

Table no: 2 showing Diagnosis of Doshavaishmya based on sputum²

Dosha	Characteristics of sputum
<i>Vata</i>	Scanty, white, slight odour, Not sticky, light floats on water
<i>Pitta</i>	Moderate, bright yellow/green/blue, foul smell, warm
<i>Kapha</i>	Copious, very white/yellow, odourless, cold, very sticky, heavy

Table no: 3 showing Diagnosis of Samadosha based on sputum³

Samadosha	Characteristics of sputum
<i>Sama Vata</i>	Dry, Not fetid, Scanty
<i>Sama Pitta</i>	Fetid, Green, Blackish, Mucoid, Sour, Moderate quantity,
<i>Sama kapha</i>	Turbid, Thready, Thick, Fetid, Large quantity.

Table no: 4 showing Differential Diagnosis of sputum based on its characteristics^{3,4,5}

B/o Quantity	Differential Diagnosis
<i>Alpa</i> (Scanty)	<i>Vatajakasa</i> , <i>Kaphajagrahni</i> , <i>Pandupoorvarupa</i> , <i>Kaphajamasoorika</i> , <i>vatajapratishtyaya</i> , Early stage of pneumonia, Bronchitis and End of Asthmatic attack.
<i>Madhyama</i> (Moderate)	<i>Kaphajapandu</i> , <i>Kaphajaarochaka</i> , <i>Panavibrahma</i> , <i>Pittajakasa</i> , <i>Krimijahrudroga</i> , <i>Jarashoshi</i> , <i>Krimijahrudroga</i> , <i>Kaphajaamlapitta</i> Bronchitis, Tuberculosis, Bronchiectasis, Lung abscess.
<i>Bahu</i> (Large)	<i>Kaphajakasa</i> , <i>Urakshata</i> , <i>Kaphajahrudroga</i> , <i>Rajyakshma</i> , <i>Kaphajapratishtyaya</i> , bronchiectasis, Lung abscess, Chronic bronchitis, Cystic fibrosis, Empyema, Subphrenic abscess rupturing into bronchus.
B/o Consistency	Differential Diagnosis
<i>Kapharahiita</i> (Watery)	<i>Jarashoshi</i> , <i>Nasasrava</i> , <i>Peenasa</i> , <i>Pratishtyaya</i> , pulmonary congestion, alveolar cell carcinoma, ruptured hydatid cyst
<i>Phena</i> (Purulent)	<i>Apasmara</i> , <i>Nasasrava</i> bronchiectasis, lung abscess, chronic foetid bronchitis, pulmonary tuberculosis and gangrene of lung
<i>Ghana/Sandra</i> (Mucoid)	<i>Kaphaja kasa</i> , <i>Pakwapeenasa</i> , <i>Bramshatu</i> , acute and chronic bronchitis, asthma, pneumoconiosis, early pulmonary TB, bronchogenic carcinoma
<i>Vigratita</i> (Mucopurulent)	<i>Urakshata</i> , Infection of bronchi and lung,
B/o odour	Differential Diagnosis

<i>Durganda/Visram</i> (fetid)	<i>Urakshata, Kshayajakasa, Rajyakshma, Putinasya</i> , lung abscess, bronchiectasis, bronchial carcinoma, foetid bronchitis, gangrene lung, infection with anaerobes, fusiform bacilli or spirilla,
<i>Madhura</i> (Sweetish)	<i>Kaphaja kasa</i>
<i>Lavana</i> (Salty)	<i>Bramshatu</i>
B/o viscosity	Differential Diagnosis
<i>Picchila/ Snigdham</i> (slimy/jelly)	<i>Rajyakshma, Kaphajakasa</i> , influenza and bronchogenic carcinoma
	influenza and bronchogenic carcinoma
B/o Colour	Differential Diagnosis
<i>Rakta</i> (Reddish/rusty/blood oyster)	<i>Samasannipatajajwara, RaktadhatugataJwara, Rajyakshma, kshatajakasa, kshayajakasa, Raktajapratishtaya</i> , Haemoptysis, Lobar pneumonia, Pulmonary Tuberculosis, Amoebic lung abscess, Paragonimus infection
<i>Shyava</i> (Blackish)	<i>Urakshata</i> , Melanoptysis due to inhalation of coal miners
<i>Peeta</i> (Yellow)	<i>Urakshata, Rajyakshma, PittakaphapradhanaSannipatajajwara, Pittaja kasa, Pittajapratishtaya</i> , Staphylococcus infection
<i>Harita</i> (Green)	<i>Kshayajakasa, Rajyakshma</i> , Pseudomonas infection
<i>Shweta</i> (White)	<i>Rajyakshma, Kshayajakasa, Kaphajapratishtaya</i> , pulmonary alveolar proteinosis
<i>Raktapitta</i> (Reddish yellow)	<i>Samasannipatajajwara</i> ,

Microscopic:

Microscopic examination of the sputum reveals the different *Sukshmadravyas* (Minute particles) and *Sukshmakrimis* (Microorganisms) which are present in the sputum. Even though there is no direct light on microscopic approach towards sputum in *Ayurveda*, but it is very important to consider for the diagnosis of *Sukshmakrimija Roga* (Microbial diseases) because they are equally responsible for the causation of various *pranavaha sroto vikara* like *Rajyakshma, Krimijahrudroga* etc.

CONCLUSION

Clinical features play an important role in the differential diagnosis along with other four criteria of *nidanapanchaka*, sputum is specific indicator of *pranavaha* and *non-pranavaha sroto vikara*. So a physician should analyze critically and interpret accurately, so that he can't get failure in the understanding of the *Doshavaishamya*, Diagnosis, Stages (*Amavasta*) and prognosis of the particular disease.

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CORRESPONDING AUTHOR:

Dr. Mahamad Yunus

Asst professor

Dept of P.G Studies in Roganidana

Shri .J.G.C.H.S. Ayurvedic Medical

College Ghataprabha Karnataka

Email: drmahamadyunus@gmail.com

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