



AYURVEDIC CONCEPT OF PITTASHMARI

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ABSTRACT

Ayurveda is a science of life. Ashmari (stone) is not new for Ayurvedic physician and even though there is no straight forward description of gallbladder and gallstone but on the basis of clinical manifestation, the disease of Extra hepatic biliary disorders may be correlated to Pittashmari, Pittodar, Yakritpleehodar and Pittaj Shula. In classics, the term Ashmari is used for Bastigat ashmari. As there is necessity of wholesome approach, therefore I tried to compare the Pittashmari with gallstones and classified it according to dosha's on the basis of certain parameters. In Pittashmari there is vikriti of pitta or byproduct of rakta and Ashmari means stone/ calculus. Acharyas had some idea about the calculi in the gallbladder of cow which may have some relation to gallbladder and its symptomatology in human beings. The gastrointestinal motility is essential for propagation of food which plays active role in the process of preventing formation of Pittashmari. This article will enrich the grey area of indepth description about Pittashmari.

KEYWORDS: Pittashmari, Pittodar, Yakritpleehodar, Pittaj shula, GoroChan, Pitta.

INTRODUCTION

The Samhita's are earliest known authorize treatise on Ayurveda and based on a sound scientific footing, all physiological and pathological phenomena were interpreted logically, also all types of diseases described in Ayurveda have their medical or surgical management. The description of Ashmari (stone) is not new for Ayurvedic physician and even though there is no straight forward description of gallbladder and gallstone but on the basis of clinical manifestation, the disease of Extra hepatic biliary disorders may be correlated to Pittashmari, Pittodar, Yakritpleehodar and Pittaj shula.

Historical background

Autopsy studies of Egyptian and Chinese mummies have shown that gallbladder stones have existed for more than 35 centuries. In 1500, Paraculus a man of remarkable fore sight and wisdom, advanced the theory that certain chemical disturbances initiated the precipitation of impurities in the biliary ducts. Kentman in 1565 attributed gallstones to bile combustion, utilizing the gallbladder stones theory that the 'heat of the liver' caused the bile to 'burn up'. Conventional management for symptomatic gallbladder stones is elective cholecystectomy, first reported in a classic article in 1882 by Karl Langenbuch, a noted German surgeon of the Charite Hospital in Berlin.

Biliary lithiasis has been the scourge of mankind since time immemorial, afflicting all sections of people with equal impartiality. Four of the past ten presidents of the

United States had surgery for gallstones during their term. Gallbladder stone is a common ailment for which every year thousand of operations are done in India. The cause may be due to increased formation and detection, thanks to ultrasonographic study.

Prevalence

Gallstones disease is one of the most common gastrointestinal afflictions, affecting approximately 10% or more of the population in the western world. There are probably 5 million people with gallstones in Great Britain, the prevalence in adult population being about 15%. In the ethnically heterogeneous population of the United States the overall prevalence is estimated at 10% of men and 20% of women between 55 and 60 years of age (Wilbur, 1959). The prevalence of gallstones varies widely in different countries and among different ethnic groups in the same country. About 500,000 gallbladders are removed annually in the United States with mortality figures of 6000 deaths annually (Small, 1971). The highest rate of gallstone formation occurs in the Pima Indians of North America, Chileans, next are Sweden, Germany, Austria and New Zealand. In India gallbladder stones are prevalent especially in the part of Northern India; they are U.P., Bihar, West Bengal, Delhi etc.

Ayurvedic concept of Pittashmari

The term 'Pittashmari' indicates gallstone or biliary calculi. 'Pitta' in sanskrit means, bile and metabolism of tissue as well as the bodily heat. The physical characteristic and qualities of pitta described in the

ancient Ayurvedic texts bears a striking resemblance to bile. The pigments of bile i.e. the bilirubin and biliverdin are essential constituents of haemoglobin complex, while in Ayurvedic classics, Pitta is considered as vikriti or byproduct of rakta. "Ashmari" means stone or calculus. Although there is no such description of Pittashmari as a disease of human gallbladder given separately in any Ayurvedic textbook, still the principle of its aetiopathogenesis of stone formation is described in various Ayurvedic texts.

All the Major and Minor treatise described about eight types of Udar roga, but in Pittodar and Yakritpleehodar there is fever, fainting, burning sensation, thirst, bitter taste in the mouth, giddiness, diarrhea, yellowish discoloration of skin, nails, eyes, face, urine and stool, feeling of heat and burning as though by movement of hot smoke and enlargement of liver on the right side etc. which are almost similar to clinical features of biliary disorder.

Also in the Charak Samhita, there is reference of Shakhshrita kamala that can be considered as obstructive jaundice where some obstruction in the biliary tract has been considered as primary cause of diseases pertaining to pittashaya or pittakosh and in Madhav Nidan eight types of Shula roga are mentioned, among them Pittaj shula resembles with sign and symptoms of biliary colic.

Acharya Charak, has given some idea about the calculi in the gallbladder of cow, he elaborated that aggravated vayu dried up the semen, urine, pitta and kapha located in the urinary bladder, than gradually stones are formed there, as Gorochan is formed in bile inside the gallbladder of the cow.

In Sushruta samhita there is discussion about pathogenesis of stone formation in urinary bladder, they also said that sediments are ultimately deposited from clear and transparent water at the bottom of a new pitcher which contain it. As the wind and lightning jointly condense the rain water into hailstones, so the bodily vayu and pitta jointly contribute to the condensation of the kapha in the bladder and transform it into stone.

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;nk rnk"e;qZitk;rs rq Øes.k fiÜksf"oo jkspuk xks :AA (p +fp +26/36)

These clearly indicates that they had noted the similarity in the formation of stones in presence of a primary nucleus and this has been beautifully illustrated with comparison of sedimentation, in clear form the basis of stone formation, sleshma bind it together. The pathology of formation of stone described is more or less similar in Ayurvedic as well as modern concept.

Though all ashmari is caused by tridosha, it is only to indicate the predominance of one or the other dosha that it is called as vataj, pittaj etc, secondly, kapha makes the nucleus of ashmari in vataj as well pittaj types. Sushruta has clearly said that all the ashmari are dependent on kapha. Forms of calculus may be interpreted according to dosha such as that simulating kadamba flowers is vatic etc. The calculus when broken by vayu is known as sarkara (gravel).

It may be summarize that the comparison of Pittashmari with Gorochana which form in the case of gallbladder of cow, may have some relation to gallbladder and its symptomatology in human beings. Sarkara may be compared with biliary sludge incase of gallbladder. There is no reference of laparotomy for exploration of the gallbladder region for either curative or diagnostic purposes. It can not be definitely said that the ancient scholars had visualized Pittashmari as gallstones.

Pathogenesis of Gall stone formation

The individual contributions of so called triple defect-supersaturation, nucleation defects, and gallbladder stasis are main causative factor. There are divergent theories about gallstone formation like, Lithogenic liver versus Guilty gallbladder versus Indolent intestine, but there is no unifying hypothesis.

Composition of Gallstones

In 1924 Aschoff, proposed a classification of gallstones in which stones were grouped as inflammatory: multiple, faceted and yellow-brown; metabolic: solitary, yellow-brown calcium bilirubinate stones, or multiple, irregular black pigment stones; mixed stones with the features of both metabolic and inflammatory stones; and stasis stones which are oval, soft yellow-brown and formed predominantly in the common bile duct.

Much effort has been expended on defining the core of gallstones and the majority of observations suggest that the centre contains pigmented material, calcium bilirubinate, often trapped in a glycoprotein organic matrix. Analysis of the remainder of a stone shows the pigmented organic matrix to be present in a layered fashion alternating between planes of cholesterol crystals. This suggests that gallstones are built up step by step around a centre of bile pigment and glycoprotein. Electron probe analysis shows that stones contain varying amounts of Na, K, P, Fe, Mg, Ca, Pb, S, Al, Ni, Cr, Ag, and B. The nature of the pigment materials in gallstones has been intensively studied by many groups but particularly by R.D. Soloway and his colleagues in Philadelphia who have classified pigment gallstones as 'black' and 'brown'.

Examination of Gallstones

Examination of Gallstones may be required after their surgical removal. The substances found in them include cholesterol, bile pigments, calcium phosphate and calcium carbonate. Gallstones may be single or multiple,

large or small. Those containing calcium salts are radio-opaque. Single stones are uncommon but usually consist mainly of cholesterol and arise due to a disorder of the physico-chemical equilibrium which normally maintains cholesterol in micellar form in the bile. Sometimes several such stones occur. Their presence, however, predisposes to attack of Cholecystitis with formation of debris and impaired emptying of the gallbladder. Deposition of a mixture of cholesterol and bile pigments occur on such debris and the resultant 'mixed' stones are the most common type. They are multiple, often with faceted surfaces due to tight packing in the gallbladder. Their content of calcium salts is variable. Whereas the cholesterol stones are often white or light coloured, mixed are usually quite dark.

Classification of types of Pittashmari

Type of Ashmari	Varna/Colour	Satah/Surface	Akriti/Structure Like	Sadrsta/Resemblance with
Kaphaj	Sweta	Snigdha	Mahan kukkut-anda	Madhuk pushpa varna
Pittaj	Reddish yellow	Smooth	Bhallatakasthi	Madhu varna
Vataj	Syava	Kathina	Visam, khara, like kantik	Kadamba pushpa

Classification of types of Gallstones-

Type of Stone	Colour	Surface	Structure	Size	Number	Component
Cholesterol	Yellow-white	Shiny	Round	Big	Single	Cholesterol
Mixed	Brown	Faceted	Round	Small	Multiple	Cholesterol, pigment
Pigment	Black	Dull, spiky	Irregular	Small	Many	Ca bilirubinates, Pigment polymer

DISCUSSION

The Pittashmari described in Ayurveda relates to biliary lithiasis, it afflicts all sections of people with equal impartiality and is most common gastrointestinal disease. In Pittashmari there is vikriti of pitta or byproduct of rakta and Ashmari means stone/ calculus. Acharyas had some idea about the calculi in the gallbladder of cow which may have some relation to gallbladder and its symptomatology in human beings. Gallstones are described in ancient modern literature, even though their are multifactorial pathogenesis about biliary lithiasis, but no unifying hypothesis about nucleating factors. Electron probe analysis shows that Gallstones contains varying amounts of Na, K, P, Fe, Mg, Ca, Pb, S, Al, Ni, Cr, Ag and B. On the basis of composition and characteristic I had tried to classify Pittashmari as per its doshik status (as vataj, pittaj and kaphaj) which are similar to Mutrashmari.

SUMMARY

1. Pittashmari as in Ayurveda relates to biliary lithiasis.
2. Gallstones are described in ancient modern literature.
3. The pathology of formation of stone described is more or less similar in Ayurvedic classics and modern concept.
4. Shaskhasrita kamala, Pittodar, Yakritpleehodar, Pittaj shula may be correlated with Extra-hepatic biliary diseases.
5. Electron probe analysis shows that Gallstones contains varying amounts of Na, K, P, Fe, Mg, Ca, Pb, S, Al, Ni, Cr, Ag and B.

Stones composed largely of bile pigments occur much less frequently but are associated with chronic haemolytic anemia. They are usually multiple, very small, and may resemble grains of black sand. The pigment is mainly bilirubin present as calcium bilirubinate, but biliverdin and bilifusin may be present.

Comparative Study of Pittashmari with Gallstones

As there is necessity of wholesome approach, therefore I tried to compare the Pittashmari with gallstones and classified it according to dosha's on the basis of certain parameters, they are as below.

6. Examination of Gallstones is required after their surgical removal in order to analyze its composition and to know in detail about its structure, nucleating factors etc.
7. Classification of Pittashmari is similar to Mutrashmari.

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