

An Overview of *Gulma* and its Relation to Gallbladder Cancer

Dr. Priyanka Katru*, Dr. Renu Sharma*, Dr. Sharad Porte**, Anita Sharma***

*PhD Scholar, Department of Agad Tantra, NIA- Jaipur, Rajasthan- India

**Associate Professor, Department of Agad Tantra, NIA- Jaipur, Rajasthan- India

***Professor and HOD, Department of Agad Tantra, NIA- Jaipur, Rajasthan- India

Corresponding author: Dr. Priyanka katru, BAMS, MD (Ayu), PhD scholar, Department of Agad tantra, NIA- Jaipur, Rajasthan- India

Abstract:-

Background: *Gulma* is one of the eight diseases elaborately described by *Acharya Charaka* in *Nidaan sthana*. It includes a wide spectrum of gastrointestinal and gynaecological illnesses with clinical signs and symptoms such as pain, swelling, lumps and tumours.

Aims and objectives: This article makes an attempt to analytically correlate the disease with current day diagnosed and confirmed GBC or Abdominal tumours in general

Material and methods: Classical Ayurvedic books, particularly the *Charaka Samhita*, were thoroughly reviewed, along with Sanskrit commentary, to acquire pertinent references and achieve depth in the notion. A thorough search of the topic was undertaken using the keywords *Gulma*, *Charaka Samhita*, *Prakriti Sama Samaveta*, *Vikriti Vishama Samaveta*, *Trishothiya adhyaya*, Phantom tumours, and Cancer, on the search engines Google, Bing, Pub Med, and AYUSH Portal, NAMASTE portal. Furthermore, key points were selected from several text books and published power point presentations.

Discussion and conclusion: Though the term cancer is new to Ayurveda, *Arbuda* and *gulma* are names that denote malignant tumours. Various references of *brihtryi* and *laghutryi* demonstrate the relationship of gallbladder cancer to *gulma*, whether it is its anatomical position, clinical manifestation, or *dosha dushya* involvement.

Keywords:- *Gulma*, phantom tumour, Gallbladder cancer, Ayurveda, *arbuda*.

I. INTRODUCTION

Gulma is a clinical condition with a very complicated clinical presentation. It is only compared to an abdominal lump or uterine fibroids, which is neither accurate nor appropriate. A "*gulma*" is a clump of trees, a thicket, a bush, or a shrub.¹ The word appears and has the same meaning in a variety of ancient historical philosophy.² Many Ayurvedic drugs and diseases have remained elusive since its inception. Some medications are disputed, while others are not classified at all. Similarly, when it comes to diagnosis, certain illnesses are unknown or are viewed differently by different

physicians. This could be attributed to Guru Shishya Parampara's dissemination of the method as well as the lack of a written description. The disciples interpret the same explanation differently, as is natural. With this uncertainty, certain diseases, such as *Gulma*, became only of academic interest over time. This disease is defined differently by different authors; the most common term is Phantom tumour, a broad term that can be interpreted and diagnosed in a patient by other physicians in a variety of ways. *Gulma* is a mass of *dosha* (bodily humours) in ayurvedic texts, specifically *Vata Dosha*, collected in a dense, almost rounded, bubble-like mass. It could be in a multiple simultaneous group, and it can move freely inside the cavity of its growth or not.³ When *Gulma* gets too thick, it also appears that its overlapping muscles and skin are high, as though they were not inspected.⁴ *Gulma* has been described in Ayurveda as large palpable, altered, intra-stomach swellings between the *Hridaya* (upper mid-region) and the *Basti* (bladder) regions, which develop as a result of *Dosha* accumulation with *Vata* transcendence. Such nodes are either transient or static and exhibit the characteristics of unrestrained rebound and return. *Gulma* is usually non-suppurative swellings separated from other intra-stomach nodes, such as *Antarvidradhi* (internal abscesses), where decay is normal.⁵

➤ Aims and Objectives

This article makes an attempt to analytically correlate the disease with current day diagnosed and confirmed GBC or Abdominal tumours in general.

II. MATERIALS AND METHODS

Classical Ayurvedic texts, particularly the *Charaka Samhita*, were meticulously surveyed, along with Sanskrit commentaries, to gather relevant references and achieve depth in the concept. A thorough search of the topic was conducted using the keywords *Gulma*, *Charaka Samhita*, *Prakriti Sama Samaveta*, *Vikriti Vishama Samaveta*, *Trishothiya adhyaya*, Phantom tumours and Cancer, among others, on the search engines Google, Bing, Pub Med, and AYUSH Portal, NAMASTE portal. In addition, important points were extracted from various text books and published power point presentations.

III. LITERARY REVIEW

Table: 1: Definition: Definition of *gulma* as per different *acharyas* given in table 1:

| S.no; | Acharya | Definition |
|-------|--------------------------------------|---|
| 1. | <i>Acharya Charak</i> ⁶ | <i>Gulma</i> as <i>Sarpinditvada</i> and its specific shape such as that of <i>Gulma</i> (shrub or bush) disease is termed <i>Gulma</i> , and it is <i>Saparshopalabhya</i> (palpable mass), <i>Paripinditatwath</i> (hard and round in shape). |
| 2. | <i>Acharya Sushruta</i> ⁷ | <i>Sushruta</i> described <i>Gulma</i> as mass with <i>Gupithanilamoola</i> (deep root), <i>Gulmavat</i> (shaped like a bush), <i>Goodamoola</i> (hidden source), <i>Vishatath</i> (hidden origin) (wide area), |
| 3. | <i>Acharya Vagbhata</i> ⁸ | <i>Asthanga</i> has defined <i>Gulma</i> as <i>Kathina</i> , similar to <i>Ashmari</i> . |
| 4. | <i>Acharya Madhava</i> ⁹ | It is referred to as <i>Granthiroopam</i> in <i>Madhava Nidana</i> (having the shape of mass) |

A. Nomenclature

According to *Acharya Sushruta*, they have five positions within the abdominal cavity (two sides, the heart area, the bladder (*Vasti*), and the umbilicus).¹⁰ *Acharya Charaka* has mentioned five locations.¹¹ The *Gulmas* are so designated because their root or base cannot be precisely localized. Their cause cannot be precisely determined, due to their origin in the aggravated state of the local bodily *Vayu*, or because they are merely an aggregation of the affected locality's deranged *Doshas*, and a shrub-like extensive

converse outline of the surface, since a *gulma* is a self-contained aggregation of the deranged *Doshas* that freely moves around in the cavity of its development, it is not marked by the onset of any suppurative process in its mass or body, as a bubble of water is. The *Gulmas* are the outcome of the behaviour of three *Doshas* individually or in combination, with a separate group of tumours in females intimately linked to a deranged or vitiated state of the blood. Locations of *gulma* is given in table 2.

Table: 2: Locations of *Gulma*:

| S.no: | Sthana | Body part | Dosha/dhatu involved |
|-------|-----------------------------|---|-------------------------------------|
| 1. | <i>Basti</i> | Urinary bladder and lower abdomen | <i>Vata</i> |
| 2. | <i>Nabhi</i> | Para umbilical region | <i>Pitta</i> |
| 3. | <i>Hridaya</i> | The cardiac region, fundus of the stomach | <i>Kapha</i> |
| 4. | <i>Parshawa</i> | Laterals of: | |
| | i. <i>Basti parshawa</i> | Uterus/inguinal regions | <i>Vata, rakta</i> |
| | ii. <i>Nabhi parshawa</i> | Large intestine | <i>Vata, pitta</i> |
| | iii. <i>Hridaya pashawa</i> | Lungs/liver/spleen | <i>Vata, pitta, kapha and rakta</i> |

Though *Gulma* variants such as *Paitika* and *Kaphaja Gulma* caused by *Pitta* & *kapha*, respectively, it is primarily a *Vata* condition. *Sanipatika Gulma* results from the vitiation of all three *Doshas*. Since abdominal organs are predominantly composed of *Mamsadhatu*, *Gulma* includes all *Siragranthi* (glandular/tumorous) forms of *Srotodushti* (vitiation of channels carrying body components) of abdominal viscera.

B. Types of *Gulma*

Vataja, *Pittaja*, *Kaphaja*, *Raktaja*, and *Nichaya* are the five types of *Gulma* listed in *Charaka Samhita's Nidana Sthana* (*Gulma* caused by all three bodily humours)¹². However, an additional 3 *Dwandwaja Gulma* (*Gulma* caused by two aggravated humour) have been mentioned in *Chikitsa Sthana* of the same treatise, owing to their distinct modes of treatment.

Nichaya Gulma is referred to as "*Nichaya*" rather than "*Sannipata*" to highlight its incurable existence.¹³

C. *Samprapti ghataka* and *samprapti*

➤ *Ghatak*

The primary cause is a reduction in *Agni* (digestive fire). *Gulma* is *Nirashraya*, which means that no *Dhatu* (tissue) is involved in the pathogenesis of the disease until it becomes severe and chronic (*Kritavastuparigraha* state) and begins to suppurate¹⁴. Only *Ashtang Hridaya* and *Ashtang Samgraha* have stated the possibility of *Rakta Dhatu* (Blood Tissue) involvement in the pathogenesis of *Doshaja Gulma*^{15,16}.

➤ *Samprapti*

The pathogenesis of *Gulma* is defined as a *Vatika Ekadeshiya Shotha* (Painful Localized Inflammation Caused by *Vata*) in *Sutra Sthana* of *Charaka Samhita*¹⁷. As a result, *Shotha* (Inflammation) is the basic phenomenon of *Gulma* pathogenesis, and *Shula* (Pain) is the *Cardinal Symptom*.

Only *Vata* elevation and provocation have been emphasized in *Nidana Sthana*. The *provoked subtype* of *Vata* triggers the *Avarana* of one subtype of *Vata*. *Pureesha* (faeces) / *Mootra* (urine) / *Kapha/ Pitta & Ama* (improperly or incompletely metabolized entities) are also markers of *Avarana* of *Vata* in *Chikitsa Sthana*. The etiological factors listed in both *Sthana* differ as a result of this¹⁸

Table: 3: Clinical features of Gulma as per Various Samhitas-

| Sr.no | Type | Charaka.Samhita ¹⁹ | Sushruta.Samhita ²⁰ | Ashtanga.Hridaya ²¹ | Madhava.Nidana ²² |
|-------|-----------|--|---|---|---|
| 1. | Vataja | Pain in the region of <i>kukshi</i> (abdomen). Dryness of the throat and mouth, | Pricking pain over abdomen region with bloating, abdomen over affected area, | <i>Manyashoola, jwara, pleeharoga</i> , pricking pain with <i>Malabnadh</i> . | Frequently pain, over <i>Nabhi</i> , (Umbilical) region and dryness of mouth, skin become blackish colour. |
| 2. | Pittaja | Burning sensation with inflammation all over the affected region, | Inflammation with burning sensation over the affected area, | <i>Daha, jwara, murcha, atisara</i> are seen in <i>pittaja gulma</i> . | Thirst, fever, redness of the skin, severe pain over abdomen region same features as <i>Vrana</i> , |
| 3. | Kaphaja | Anorexia, fever, Shivering, body ache, nausea, cough, tastelessness, heaviness, and hard, elevated non on inflammatory masses, | Hard, elevated mass-like structure with mild pain and anorexia, feeling of tiredness. | <i>Aruchi, Peenasa, Kasa</i> , these are symptoms of <i>Kaphaja Gulma</i> | <i>Sheetajawara, gatrasada, Kasa, aruchi</i> , cold sensation. |
| 4. | Trodosaja | This is <i>Tridoshajanya Gulma</i> with excessive pain, burning sensation; it is incurable. | - | Involvement of More than two <i>doshas</i> . Pain, <i>daha</i> and, Suppuration are formed in this <i>gulma</i> . | <i>Daha</i> with <i>Ashmavata</i> or stone-like hard <i>Gulma</i> Structure is formed. <i>Manas</i> and <i>Pachakaagni</i> become very weak. It is incurable. |
| 5. | Raktaja | Incurable | - | - | Clinical features are same as pregnant women. |

D. *Pathya apanya of Gulma*²³

- **Wholesome diet (Pathya):** *Purana shali* (old rice), *Kulatha* (horse gram), *Jangla Mamsa*, *Kooshamanda*, *Amalaki*, *Dadima*, *Eranda*, *Ardraka*, *Jirak*
- **Unwholesome diet (Apanya):** *Guruhara* (heavy food), *Virudhaahra* (incompatible food), *Vishama Ahara* (improper food), *Shushka shaka* (dry vegetable), *Kanda moola* (tubers and roots), *Matsya* (fish), *Aalukam*, *Mulkam*, Sweet fruit.
- **Medicines:** Yogas that are mentioned in *Brihityri* and *laghutryi* are given in Table 5 & 6

Table: 4: Yoga of GULMA in Brihityri:

| S.no: | Dosha | Charak Samhita ²⁴ | Susruta Samhita ²⁵ | Vagabhatta ²⁶ |
|-------------------------------|-------------------------------|------------------------------|---|---------------------------------|
| 1. | Vataj | 1.Hapushadi Ghrita | 1.Shadangama Ghrita | 1.Lahsunaadi Ghrita |
| | | 2.Hingwadi choorna | 2.Chitrakdighrita | 2.Dadhik Grita |
| | | 3.Hingusauvarchala ghrita | 3.Hingavadha ghitam | 3.Hingawadi Choorna. |
| | | | 4.Dadhikam ghrita | 4.Shardhul Choorna |
| | | | 5.Rasonadi ghrita | |
| | | 4.Pipalyadi ghrita | 6.Dadhyadighritam | 5.Saindhavadi churna. |
| | | 5.lahsunksheerapak | | |
| | | 6.Shankha vati | | |
| | | 7.Vaisvanara choorna | | |
| 8.Dashmoola ghrita | | | | |
| 9.Kumaryasava | | | | |
| 2. | Pittaja | 1.Rohiniyadh ghruita | 1. Trinamuladhi | 1. Tiktaghrita |
| | | 2.Trayamana ghrita | | 2. Vasa ghrita |
| | | | | 3. Vasaghrita |
| 3.Panchatrinatrasiddha ghrita | 4.Panchatrinatrasiddha ghrita | | | |
| 3. | Kaphaja | 1.Bhallataka ghrita | 1.Trinighritani-Aragvadha-and Pipplyadhighanasiddha ghrita. | 1.Bhallataka Ghrita |
| | | 2.Ksheerashatphalak grita | | 2.Mishrit sneha |
| | | 3.Mishrakasneha | | 3.Dantayadhi haritki |
| | | 4.Dantihari | | 4.Ksharagad 5.Neelika ghrita |

Table: 5: Yoga of GULMA in laghutryi:

| S.no: | Dosha | Bhavaprakash | Sharangdhara |
|-------|---------|----------------------|----------------------------|
| 1. | Vataja | 1.Erandatailam | 1.Dashmulakwath |
| | | 2.Lahsunaksheeram | 2.Abhyadikwath |
| | | 3.Vraunadikwatah | 3.Varunadkwatha |
| | | | 4.Marichyadhichoorna. |
| | | | 5. Kankayanvati |
| 2. | Pittaja | 1.Mahatiktaghrita | 1. Mahapanvhatikta ghrita. |
| | | 2.Gulmashardula Rasa | 2. Rohitakaarishta |
| | | 3.Vadavanlo rasa | |
| 3. | Kaphaja | 1.Gulmakuthara rasa | 1. Lokanatha Rasa |
| | | 2.Pravalapanchamrita | 2. Vidhyadhara Rasa |
| | | | 3. Piplayasva |
| 4. | Raktaja | 1.Panchana Rasa | |
| | | 2.Gulmavajrini Rasa | |
| | | 3.Pranavallabha Rasa | |

E. Literary review of Gallbladder cancer

Gallbladder cancer is the most common form of biliary tract cancer in the world. It's also the most lethal biliary tract cancer, with the shortest median survival period after diagnosis. This dismal prognosis is caused in part by vigorous biologic activity and a lack of sensitive screening techniques for early detection, resulting in late identification at an advanced stage. The only approach to achieve a permanent cure is through surgical resection; unfortunately, only 10% of patients are candidates for curative surgery at the time of diagnosis. The architectural intricacy of the Porto biliary hepatic system, the morbidity/death associated with liver resection, and the hazards of tumoral dissemination secondary to tumour manipulation all indicate to a significant mortality rate, even among candidates for resection. Furthermore, even after surgical resection, recurrence rates remain high.

F. Anatomy

The gallbladder is located directly beneath the liver. When food is digested, bile stored in the gallbladder travels into the small intestine via the cystic and common bile ducts. The gallbladder wall is made up of four layers of tissue: the mucosal layer, the muscle layer, the connective tissue layer, and the serosal layer. As it progresses, primary gallbladder cancer begins in the mucosal layer and spreads to the outer layers.

G. Gallbladder cancer signs and symptoms may include

- Abdominal pain, particularly in the upper right portion of the abdomen,
- abdominal bloating,
- fever,
- losing weight,
- nausea,
- yellowing of the skin and whites of the eyes, there are no signs or symptoms in the early stages of gallbladder cancer, the symptoms of gallbladder cancer, when present, are like the symptoms of many other illnesses.²⁷

IV. DISCUSSION

Though the term cancer is new for Ayurveda but *Arbuda, gulma*, these are very nearer terms described for malignant tumours. As *Acharya Charaka* has considered *Gulma* as one type of *shotha*²⁸. Also, from the five *adhishthans*, *Charaka* has described *parshv* as one of the *Gulma adhishthans*²⁹. *Acharya Chakarpanidutt*, in his commentary, has also represented the details of the five *adhishthans* in which the *pittashaya*³⁰ (gall bladder) is one of the *Gulma sthana*. As per *Acharya Sushruta*³¹, any *granthi* between *hruday* and *basti pradesh* has been named *Gulma*. Also, the various symptoms of *Gulma* are likely to resemble the clinical manifestations of gallbladder cancer. And as *Madhav Nidaan*, while describing *Gulma*, has mentioned, any *granthi* inside *koshta* is called *gulma*³². According to *Acharya Vagbhata* the clinical manifestations of GBC are likely to be similar to that of *gulma*³³. Types of *gulma* are *vataja, pittaja, kaphaja, raktaja* and *sannipataja*. The GBC can be co-related with the *pitta pradhan sannipataja gulma*, and it's probably because it is presented in the *pittaja* area and shows the symptoms of all the *doshas* viz *vata, Pitta & kapha*. As discussed above the GBC is the most lethal disease. It is clear from the *sannipatik gulma* that it is said to be incurable. Near about, all the superficial malignant tumours may be included in *Arbud*. In contrast, all the malignant growth of the G.I tract from stomach to colon (*amashya, pitashya* and *vatashya*) may be included in *Gulma*. The clinical manifestations of the *Gulma* are also likely to be similar to that carcinoma gallbladder. Thus, it can be concluded that the malignant growth of the G.I tract from stomach to colon may be included in *Gulma*.

V. CONCLUSION

Despite the fact that there is no direct reference to GBC in Ayurveda, the clinical signs and symptoms of *Pitta Pradhan sannipatika gulma* have been observed to be similar to GBC. According to Ayurveda, *mithya ahar vihar* is one of the major causes of *gulma*, which can lead to obesity and cholelithiasis, both of which are known risk factors for GBC. As a result,

GBC can be managed using the basic principle of *Gulma chikitsa*.

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