

OBSERVATIONAL CASE STUDY ON YAKRIT ARBUDA W.S.R TO HEPATOCELLULAR CARCINOMA

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Article Received on
25 Oct. 2019,

Revised on 15 Nov. 2019,
Accepted on 05 Dec. 2019,

DOI: 10.20959/wjpr20201-16239

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ABSTRACT

Hepatocellular Carcinoma is the most common type of liver cancer and constitutes 90% of cancers of liver globally. It is the 5th common cause of cancers effecting human, common in men than in women. There are multiple factors involved in the etiology of HCC, all of which may have direct or indirect impact on patient characteristics. Despite the advancement in science causative agent can often be unidentified. The clinical understanding of *Yakrit arbuda* requires a review and the classical texts describe a range of clinical conditions simulating carcinomas with their pathogenesis and clinical presentations. As there are still many gaps in current understanding of HCC, need of the hour are further efforts to elucidate the diverse mechanisms involved in the etiopathogenesis of *Yakrit arbuda* in

Ayurveda. Hence the present observational case study is aimed to know the understanding of Hepatocellular carcinoma in *ayurveda* as different *avasta bheda's* of *Arbuda* in *Yakrit*, considering its *Samuthana vishesha*, *Adhistana antarani* and *Vikara prakriti* which paves the way for precise diagnosis and prognosis of the disease in early stage so that the patient is benefited with appropriate measures.

KEYWORDS: Hepatocellular Carcinoma, *Samuthanavishesha*, *Adhistana antarani*, *Vikaraprakruti*.

INTRODUCTION

Cancer is one among such serious and potentially challenging life threatening diseases in the present era. Science is not a sudden invention. It is a gradual evolution. *Ayurveda* as science is no exception for it. An urge to soothe the sufferings is as old as the urge for a secure life. The oriental thinking found the path to mitigate the sufferings – be it physical, mental or spiritual in the form of science of life, i.e. *Ayurveda*. The imperishable fundamentals of *Ayurveda* which were laid down by the great sages of olden days are still applicable because of their scientific & spiritual eternal background. Such fundamentals must be subjected to scientific research not only to prove its certainty but also to add something to the existing knowledge.

The World health Organization has stated that cancer is the most deadly challenge to be met in the 21st century. Hepatocellular Carcinoma is the most common type of Liver cancer and constitutes 90% of cancers of Liver globally. Approximately 7.5 lakhs of new cases of HCC per year occur globally which makes HCC the 5th common cause of cancers effecting humans. It is more common in men than in women.

Arbuda, *Granthi*, *Gulma* are the diseases described in *Ayurvedic* classical texts with abnormal growth as dominant presentation. Clinical presentation, diagnosis, prognosis and management of abnormal growth depend on the site and severity of manifestations. The *Samutthanavishesha* (etiological diagnosis), *Adhistanavishesha* (Pathological) and *Vikaravishesha* (Clinical diagnosis) of *Arbuda*, *Granthi*, *Gulma* explained in ancient literature is having important role in the understanding of Neoplastic disorders described in biomedicine.

Proper understanding of *Samutthanavishesha*, *Adhistanantarani* and *Vikara prakriti* will help to know the different avastha bheda of Hepatocellular carcinoma in ayurveda. This helps in early diagnosis of the disease, which plays an important role in preventive, curative aspects of Hepatocellular Carcinoma and better intervention apart from deciding the prognosis. So here an attempt is made on "OBSERVATIONAL CASE STUDY ON YAKRIT ARBUDA W.S.R TO HEPATOCELLULAR CARCINOMA".

OBJECTIVES

1. Critical Study on the *Nidanapanchaka* of *Arbuda* in *Yakrit*
2. Observation study of *Nidanapanchaka* of *Arbuda* w.s.r. to Hepatocellular Carcinoma

MATERIALS AND METHODS

1) Source of data

A minimum of 20 patients will be selected for study, irrespective of gender from OPD/IPD of SDM Ayurveda Hospital, Udupi and other referral hospitals in Udupi district. The diagnosis will be supported by the clinical features and other investigations.

2) Method of collection

A special proforma will be prepared with all points of history taking, physical examinations as mentioned in Ayurveda and allied sciences, along with the laboratory investigations. Accordingly, patients will be selected for clinical evaluation.

A) STUDY DESIGN

It will be an observational study on 20 patients diagnosed as Hepatocellular Carcinoma using diagnostic parameters. Signs and symptoms of patients will be assessed clinically with a detailed history taking, physical examination and laboratory findings.

B) INCLUSION CRITERIA

- Patients diagnosed with Hepatocellular Carcinoma.
- Patients of either gender, irrespective of age group will be taken for study.

C) EXCLUSION CRITERIA

- Patient with benign tumors of liver are excluded for the study.

D) ASSESSMENT CRITERIA

- 1) Nidana and lakshana of Yakrit arbuda as a avastabheda of different diseases mentioned in text.
- 2) Symptoms, signs, mentioned in the text book of western medicine.
- 3) Radiological findings (USG, CT, MRI).

E) FOLLOW UP

Do not require follow up as this is an observational study.

F) DURATION OF STUDY

Since this is a clinical observational study, patients will be kept under observation till the clinical laboratory evaluations are done.

RESULTS

The Observation of Hepatocellular carcinoma patient's data is interpreted under 3 headings as *Vikaraprakruti*, *Adistanaantarani* and *Samuthanavishesha*. Here *Samuthanavishesha* revealed maximum patients had *Vishamashana* as *nidana*, involvement of *Mamsa*, *Meda*, *Rasa* and *Rakta dhatu*. *Vikaraprakruti* revealed *Aruchi*, *Atopa*, *Sparshopalabyagranti*, *Kamala* and *Shoola* as *Lakshana*. These above features of Hepatocellular carcinoma can be further understood through our classics as *Avastabheda* of different *Vyadhis* such as *Gulma*, *Udara*, *Kamala* and *Arbuda*. Clinical findings of the patients were corresponding with the investigation reports and CT findings and all are suggestive of Hepatocellular Carcinoma.

DISCUSSION

Among 20 diagnosed patients of Hepatocellular Carcinoma following observations are made on *Samutthana vishesha*, *Adistana antarani* and *Vikaraprakruti*, *Avasta vishesha*.

SAMUTTANA VISHESHA

SAMANYA NIDANAS BASED ON

1. AHARAJA NIDANA^[1]

a) AHARA VIDHI

In the present study, maximum 70% of the patients gave a history of *Vishamashana*, 50% gave a history of *Viruddhashana*, 25% gave history of *Adhyashana* and 25% of the patients gave a history of *Samshana*. *Vishamashana* is the most common cause for *Ama Pradoshaja Vikara* in which *Virruddhara* identified as risk factor for *Shoatha*, and *Udara*.

b) DIET PATTERN AND DIETARY HABITS

In the present study, 95% of the patients were consuming Mixed diet, while 5% were strict Vegetarians and maximum 100% of the patients gave a history of regular consumption Carbohydrate rich diet, 85% of Protein rich diet and 10% of the patients were consuming Fat rich diet. Consumption of *Guru*, *Snigdha*, *Abhishyandi aharas* are identified as important causative factors for *Kapha*, *Mamsa*, *Meda Pradoshaja Vikaras* in all classical texts.

c) ADDICTIONS^[2]

In the present study, 60% of the patients were addicted to Alcohol, 15% were addicted to Tobacco, Smoking, Snuffing. *Varuni madya* mentioned as important *Srotodusti nidana* – *Raktavahasrotas*, *Medovahasrotas*, which is one among the *dushya* of *Granti*, *Arbuda samprapti*. Long-term alcohol use has been linked to an increased risk of Liver cancer.

Regular, heavy alcohol use can damage the Liver, leading to inflammation and scarring. This might raise the risk of Liver cancer.

2. VIHARAJA NIDANA^[3]

In the present study, maximum 60% patient gave history of *Avyayama*, and 60% gave history of *Divaswapna*, 35% gave history of *Ativyayama* and 5% of gave history of *Ratrijagarana* *Avayayama* mentioned as *nidana for Kapha, Mamsa* and *Meda dusti* which is one among the causative factor of *Shoatha, Arbuda & Granti*.

3. MANASIKA NIDANA /MENTAL STRESS^[3]

In the present study, 55% of the patients gave a history of Mental stress while 45% did not have any Mental stress. Mental stress is identified as common causative factor to produce to *Ama* i.e. toxic digestive and metabolic end product irrespective of measured dietetics. *Ama* is well known risk factor for different types of pathogenesis including neoplasm.

4. ADIBALA NIDANA-FAMILY HISTORY OF CANCER^[4]

In the present study, maximum 65% of the patients gave Negative family history and 35% of the patients gave a Positive family history of Cancer Genetic cause is also one of the risk factors for developing Hepatocellular Carcinoma. Existing reports are supporting to this data.

5. ROGOTTA NIDANA/ PAST ILLNESS^[5]

In the present study, 30% of patients had no as such history of past illness related to study, 25% of patients has history only of Jaundice, 15% of each patients had positive history of only Cirrhosis, 15% of Diabetes Mellitus and Hypertension, 10% with Hepatitis B, 5% of patients had history of Diabetes Mellitus, Hypertension and Cirrhosis of liver all together. Most of the patients are suffering from the diseases related to *Raktavaha* and *Mamsavaha srotas* which are part of *Samprampti* in *Yakrita arbuda*

VISHESHA NIDANA BASED ON

1. DOSHA PRAKOPAKA NIDANA^[6]

In the present study, maximum 100% of the patient gave the history of indulging in *Kapha Prakopaka nidana*, 95% of the patient indulging in *Vata Prakopaka nidana*, and 50% of the patient gave the history of *Pitta Prakopa nidana*. In classics we get *Arbuda* is *Kapha Pradhan Tridosha Vyadhi*. Hence through this study we can understand *Arbuda* in *Yakrit* is due to excessive consumption of *Kapha Pakopaka Tridoshaja nidana*.

2. SROTODUSTI NIDANA^[7]

In the present study, *Mamsavaha Srotodusti nidana* - 100% of the patient had history of *sevana* of *Abhishyandi ahara* and *Guru ahara*, 60% of the patient had history of *Bhuktadivaswapana*. *Medovaha Srotodusti nidana* - 60% of the patient had history of *Avyayama*, 60% with *Varuniatisevana* and 60% had history *Diwaswapna*. *Raktavaha Srotodusti nidana* - 95% of the patient were consuming *Vidhahiannapana*, 55% patient had history of *Atapasevana*. *Rasavaha Srotodusti nidana* - 100% of patient had history of consuming *Guruahara*, 55% of patient had history of *Atichinta*. *Annavaha Srotodusti nidana* - 100% of the patient had history of *Akala bhojana* and *Agnimandya*.

Srotovaigunya in particular *Srotas* is important for manifestation of any *Dhatugata Vyadhi*. Specific *Srotodustikara nidana* causes particular *Srotovaigunya* leading to *vyadhi*. If the person has *Srotovaigunya* in *Mamsavaha Srotas* and if he Study expose to chronic and excessive *Annavaha* and other *Srotodustikara nidana* than this may increases the risk of development of Liver Malignancy/*Yakrit arbuda*.

ADHISTANA ANTARANI AND VIKARAPRAKRITI

1. DOSHA DUSTI LAKSHANA^[8]

In the present study, 100% of patient had involvement of *Kapha dosha*, 100% of the patient had involvement of *Vata dosha*, and 50% had involvement of *Pitta dosha*. *Arbuda* is *Tridoshajanya Vyadhi*. According to obtained data we can consider Hepatocellular Carcinoma as *Kaphapradana Tridosha Vyadhi*.

2. DOSHA PRAKOPA LAKSHANA^[9]

In the present study, *Vataprakopaka lakshana* - 80% patients had *Angasada*, 75% had *Alpabala*, 55% of the patient had feature of *Atopa*, 30% patients had *Shoola*. *Pittaprakopaka lakshana* - 40% of the patients had history of *Peetavabhasata* and *Peetavinmutranetra* and 15% of the patient had *Santapa*. *Kaphaprakopaka lakshana* – 100% patients had *Hrillasa* and *Agnimandya*, 90% of the patient had history of *Guruta* 80% had *Tandra*, 75% had h/o *Alasya*. As per the classics *Arbuda* is *Tridosha Prakopaka Vyadhi*. This data also support the *Aptopadesh*, i.e in *Arbuda* there will be involvement of *Tridosha*. Based on the present data we can consider that the *Yakita* in *arbuda* / Hepatocellular Carcinoma is *Kapha Pradhana Tridoshaja Vyadhi*.

3. SROTODUSTI LAKSHANA

Mamsavaha Srotodusti lakshana -100% of patient had Presence of *Granti*-on CT/USG Scan-nonpalpable and 35% of patient had Presence of *Granti*-on palpation –palpable mass.

Medhovaha Srotodusti lakshana-100% of patient had Presence of *Granti*-on CT/USG Scan-nonpalpable, 35% of patient had Presence of *Granti*-on palpation – palpable mass, 75% of patient had *Alasya*, 65% had *Nidradhikyata*.

Raktavaha Srotodusti lakshana - 100% of patient had Presence of *Granti*-on CT/USG Scan-nonpalpable, 35% of patient had Presence of *Granti*-on palpation –palpable mass, 80% had *Angamarda* and 40% had presence of *Kamala*.

Rasavaha Srotodusti lakshana - 95% of patient had *Aruchi*, 75% had *Karshyata* and 15% of patient had *Jwara*.

Annavaha Srotodusti lakshana - 100% of the patient had predominant symptom as *Annabhilasha*, 95% of patient had *Aruchi* and 10% of the patient had *Chardi*.

In all type of malignant tumor invariably there will be involvement of the *Mamsa Dhatu*. This incidence also proves that in all type of the *Arbuda* there will be involvement of the *Mamsa Dhatu*. Hence for the genesis of the Hepatocellular Carcinoma there will be invariably involvement of *Mamsa Dhatu* is needed. Due to impaired function of the *Annavaha Srotas* there will vitiation of the *Rasa* and *Rakta Dhatu*, *Mamsa Dhatu*, *Medho Dhatu* take place. Present study data also reveals the same.

3. SIGNS AND SYMPTOMS OF HEPATOCELLULAR CARCINOMA^[10]

In the present study of Liver Malignancy, 95% with Anorexia, 85% showed the symptoms of Malaise, 75% patient had Weight loss, 75% with Fatigue, 55% of patients complained about Upper abdominal pain, 50% with Abdominal swelling, 40% patient had symptom of Jaundice, 15% patients with Fever and 10% with Vomiting. On Examination, 40% with Pedal edema and 35% of patient had Hepatomegaly.

The study showed maximum number of patients presented with varied symptoms & signs like Anorexia followed by Weight loss, Malaise, Upper abdominal pain, Palpable swelling and Jaundice which support the current available data of HCC. It also established atypical

presentation of HCC in which less than 50% of patients showed the specific clinical features of Hepatobilliary system i.e. Jaundice and Upper abdominal pain.

AVASTABEDHA

Among 20 Hepatocellular Carcinoma patients, 45% of the people had *Gulma avastabedha*, and 40% patient presented with *Udara as avastabedha* 15% of patient had *avastabedha of Kamala*. The study showed most of the presentation of HCC are the avasthabhedha of *Gulma* and *Udara roga* i.e. *Granthi*, *Udarashula*, *Udara shotha*, *Anannabhilasha* and *Karshya* as dominant manifestations. *Kamala* as one among the common manifestation of *dusti* of *Raktavaha Srotas* and its *mula Yakrit*. In this study minimum patient presented as *avasthabhedha* of *Kamala* which might be due to the *Srotosamipya* and early influence of *Yakrit dosha* on *Annavaha Srotas* which dominate clinical presentation HCC. Study.

CONCLUSION

In ancient *Ayurvedic* literature knowledge regarding malignant like disease was well known as we get plenty of details. We cannot find any specific reference by the name of *Yakrit arbuda* in our classics.

Liver tumors or Hepatic tumors are tumors or growth on or in the liver. These growths can be Malignant or Benign. The most frequent primary malignancy in liver is Hepatocellular Carcinoma.

Splenic and Liver enlargement takes place either due to *Chyuta vriddi* or displacement or by *Achyuta vriddi* signifying quantitative increase in *dusta Rakta*. Quantitative increase of *Rakta dhatu* may take place either due to disease pertaining to *Rasa dhatu* or due to *Rakta dhatus*. *Acharya Chakrapani* has stated the *vriddhi* of *Mamsa dhatu* also. *Yakrit vriddhi* is consequence of many diseases. *Rasa pradoshaja vikara* such as *Paandu roga* and *Jwara*, *Yakrit* may be enlarged. Similarly in *Raktapradoshaja vikara* such as *Raktapitta*, *Kamala* there may be *Yakrit Vriddhi*. *Arduda* is a *Mamsapradoshaja Vikara* and *dusti* of *mamsa* may result in *Arduda* at *Yakrit* or other part of body. Later *dwirarbuda* may develop at *Yakrit*.

In *Ayurvedic* literature terms such as *Gulma*, *Granti*, *Arbuda* are used for specific tumor conditions. Various *Ahara*, *vihara*, *shareerika* and *manasika hetus* contribute to the formation of *Arbuda* in general and even in the liver. These *nidanas* can be further classified and

understood through *Adhyatmika*, *Adidaivika* and *Adiboutika nidanas* responsible for causing *Arbuda* in *Yakrit*.

As there is no specific reference for *Yakrit arbuda* in our classics, it can be understood under the heading of *Avastabheda* of different *vyadhis* mentioned in classics. *Vikaraprakriti* and *Adhistanaantarani* of *Yakrit arbuda* is analyzed and understood under *Avastabedha* of *Kamala* such as *Kumba Kamala* and *Haleemaka*, *Avastabheda* of *Gulma* such as *Kaphaja* and *Sannipataja Gulma*, *Avastabheda* of *Udara* such as *Sannipataja Udara* and *Yakritodara*.

Hence *Anukta vyadhi* such as Hepatocellular Carcinoma can be studied by observing *Samuthanavishesha*, *Adhistanaantarani*, *Vikaraprakruti* of *arbuda* in *Yakrit* to know it's mentioning in classics as different *avasta bheda*. Recent advancement in modern medical technology is very much useful in the early detection of the liver malignancy The scope for *Ayurveda* in the area of oncology could be prevention, anticancer therapy, adjuvant to chemotherapy and improving the quality of life in advanced disease conditions.

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