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Phyto extracts of *Carica papaya* and *Tinospora cordifolia* can correct thrombocytopenia in alcoholic decompensate liver cirrhosis : Case Series

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ABSTRACT

Thrombocytopenia (platelet count <150 × 109/L) is a frequent complication of decompensate cirrhosis and is considered as an indicator of advanced disease. Carica papaya leaf juice has beneficial effect in thrombocytopenia associated with dengue. Tinospora cordifolia has been shown to prevent the fibrous tissue deposition of liver by modulation of kupffer cell activation. An attempt was taken to observe the usefulness of extract Carica papaya and Tinospora cordifolia in alcoholic decompensate cirrhosis. A market available product Cariden is easily available to the patients which contains Phyto extracts of Carica papaya 1100mg and Tinospora cordifolia 500mg. Phyto extracts of Carica papaya and Tinospora cordifolia can enhance the platelet count within 15 days and it can normalise the platelet within 90 days of therapy in all three cases. Further randomised control trial is suggested.

Key words: *Liver Cirrhosis, Thrombocytopenia, Carica Papaya, Tinospora Cordifolia.*

INTRODUCTION

Chronic liver diseases leads to end stage of liver disease where irreversible scarring of the liver, known as cirrhosis.[1] Most of the liver patients attend to our OPD in decompensate stage only. Decompensate cirrhosis is defined by the presence of ascites, varicose bleeding, encephalopathy and / or jaundice.[2] Thrombocytopenia (platelet count $<150 \times 10^9$/L) is a frequent complication of decompensate cirrhosis and is considered an indicator of advanced disease.[3] The prevalence of thrombocytopenia in different studies ranges from 6% among non-cirrhotic patients with chronic liver disease up to 70% among patients with liver cirrhosis. The low platelet count is due partly to the effects of portal hypertension and hypersplenism, decreased thrombopoietin production, alcohol and virus - induced bone marrow suppression. Thrombopoietin is predominantly produced by the liver and is reduced when liver parenchyma mass is severely injured or damaged. This leads to reduced thrombopoiesis in the bone marrow and consequently to thrombocytopenia in the peripheral blood of patients with advanced-stage liver disease.[4] It is being an indicator of advanced disease and poor prognosis. It also frequently prevents patients from receiving crucial interventions such as medications, as well as invasive diagnostic or therapeutic procedures.[5] Platelet transfusion is the option in emergency conditions. Currently, only eltrombopag is approved for usage among patients with thrombocytopenia and chronic hepatitis C virus infection in order to initiate and maintain interferon - based antiviral treatment. Nevertheless, the optimal management of hematologic abnormalities among patients with chronic liver disease, and its risk for bleeding

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complications, is still a matter of discussion. The risk of bleeding complications can cause postponement of necessary procedures and therapy.[6] Thromocytopenia is profoundly found in the routine check up of CBC in decompensate cirrhosis patients as patient opt *Ayurveda* as last resort. Platelet counts of 75,000 to 150,000/L are defined as grade 1 thrombocytopenia, 50,000 to <75,000/L as grade 2, 25,000 to <50,000/L as grade 3, and below 25,000/L as grade 4 thrombocytopenia. (CTCAE v3.0; www.ctep.cancer.gov/reporting/ctc.html).[7]

According to Ayurveda, *Yakrit* (Liver) genesis from *Rakta Dhatu* and its function also create *Rakta* (blood cells). It also provide colour to skin. It is place of Agni and *Pitta* . Therefore *Pittaja Ahara* (spicy, sour, salty diet) can produce liver diseases. *Madhya* (Alcohol) is the best *Pittaja* drink therefore alcohol cause liver diseases. The treatment plan and procedure of *Ayurveda* is to improve survival in decompensated cirrhosis through anti *Pitta* treatment. There are more than three hundred herbo-mineral preparations in Indian system of medicine for the treatment of jaundice and chronic liver diseases. More than 50% people of our country relay on *Ayurveda* and herbal medicine for liver diseases. Undoubtly *Ayurveda* herbs and products having defined biochemical active component can protect liver from oxidative stress, promote virus elimination, block fibrogenesis, anti inflammatory, immune-modulating, liver regenerating and inhibit tumour growth in-vitro and in-vivo studies.[8] Carica papaya leaf juice has beneficial effect in thrombocytopenia associated with dengue.[9] Tinospora cordifolia contains many useful effects such as antioxidant, antineoplastic, hepato-protective, hupolipidemic and immunological properties. It is a good immune-stimulant. It helps in proliferation of immune cells and also treats the affected liver cells.[10] *Tinospora cordifolia* has been shown to prevent the fibrous tissue deposition of liver by modulation of kupffer cell activation.[11] Phyto extracts of *Carica papaya* and *Tinospora cordifolia* (Thrombobliss) enhance platelet in patients with infectious like Dengue and other infections associated with thrombocytopenia.[12] Therefore this attempt was taken to observe the effect of *Carica papaya* extract and *Tinospora cordifolia* in alcoholic decompensate cirrhosis.

AIMS AND OBJECTIVE

The aim of the study to assess the safety and efficacy of Phyto extracts of Carica papaya and Tinospora cordifolia in thrombocytopenia of three pre diagnosed compensated cirrhosis patients.

Cases presentation and history

Three male patients of alcoholic compensated cirrhosis attended our OPD for the treatment after advised for liver transplant. All patients have the history of thrombocytopenia since six months. All three have jaundice, ascites and one have history of hepatic encephalopathy and one have the history of varicose bleeding.

Treatment design and outcome measure

The treatment protocol was initial digestive, hepato protective and immune-modulator. Among three two patient have grade 3 thrombocytopenia and one patient has grade 2 thrombocytopenia. Cap of Phyto extracts of *Carica papaya* 1100mg and *Tinospora cordifolia* 500mg is administrated in dose of one capsule twice daily after food. The base line platelet is compared with every 15 days for three months. The safety of the drug assessed by renal and liver function test.

Table 1: Showing total platelet count per µl before and after treatment.

Case no	D0	D15	D30	D60	D90
1	60,000	90,000	117,000	128,000	155,000
2	33,000	56,000	72,000	92,000	180.000
3	38,000	52,000	82,000	98,000	167,000

TREATMENT OUTCOME AND DISCUSSION

Phyto extracts of *Carica papaya* 1100mg and *Tinospora cordifolia* 500mg has enhanced the platelet

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count within 15 days and it can normalise the platelet within 90 days of therapy in all three cases (Table 1). It is safe as CBC, electrolytes, renal and liver function test of three patients have no significant change with base line. Thrombocytopenia occurs frequently in alcoholics through a direct effect on the bone marrow. Alcohol reduces platelet life span and leads to ineffective megakaryopoiesis. This medicine may increased platelet production and maturation in alcoholic compensated cirrhosis patients. Therefore it is also a indicators of good prognosis and improving survival of these treated cases.

CONCLUSION

Cap. of Phyto extracts of Carica papaya 1100mg and Tinospora cordifolia 500mg is safe and it increased platelet production and maturation in three alcoholic compensated cirrhosis patients. Further pilot study is suggested.

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