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RESEARCH ARTICLE

ROLE OF BLOOD-LET OUT CUPPING THERAPY IN TAMING THE WILD HEPATITIS B VIRUS

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ABSTRACT

The study aimed to demonstrate the seroclearance effect of cupping therapy in patients with hepatitis B virus (HBV) infection.

HBV infection is a major health burden; it is often realized at a late stage. Proper assessment and early therapy can suppress replication of HBV preventing the silent progression of chronic liver disease to end-stage cirrhosis. Treatment of chronic hepatitis B (CHB) is directed at suppressing HBV replication before development of any significant irreversible liver cell damage. The long-term goals of CHB therapy are to reduce serum HBV DNA to low or undetectable levels and ultimately reduce or prevent the development of cirrhosis and hepatocellular carcinoma. Complete eradication of HBV is not possible, therefore; the efficacy of treatment is assessed according to the rate of viral seroclearance that can limit long term cirrhosis-related complications. Spontaneous HBV seroclearance in CHB infection occurs at an annual incidence of 1-2%. According to experimental evidences, cupping therapy is a traditional procedure talented for seroclearance or elimination of the undesired elements from the circulation.

The study included two healthy volunteers as control and fourteen patients with HBV infection. Two patients were on no therapy and the other twelve patients were divided into three groups according to their medication. The two volunteer patients, the two pre-therapy patients and two patients of each therapy group had undergone three sessions of cupping therapy on the upper back.

Revision of results demonstrated that patients have shown low detectable and undetectable levels of HBV after cupping therapy.

On conclusion, cupping seroclearance therapy has got a marked therapeutic effect on hepatitis B viral load.

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INTRODUCTION

HBV infection is a major health burden, the seriousness of chronic hepatitis B (CHB) was often realized at a late stage. It is a major global health concern and is the most common cause of chronic liver disease worldwide. The resultant morbidity and mortality from cirrhosis complications is considerable, with a high human cost. CHB viral infection affects about 400 million people around the globe and causes approximately a million deaths every year. Chronic hepatitis should now be diagnosed early, at the asymptomatic stage. Proper assessment and early therapy can suppress replication of HBV preventing the silent progression of chronic liver disease to end-stage cirrhosis.^{1,2}

The diagnosis of HBV infection requires evaluation of the patient's blood for hepatitis B surface antigen (HBsAg), hepatitis B surface antibody and hepatitis B core antibody.

Patients with chronic HBV infection should be monitored for disease activity with liver enzyme and HBV DNA levels.³ The rate of viral replication reflected in the viral load (HBV-DNA) plays an important role in the development of cirrhosis and hepatocellular carcinoma.²

The clinical outcomes of chronic HBV infection are determined by the viral replication and the host immune response. Treatment of CHB is therefore directed at suppressing HBV replication before development of any significant irreversible liver cell damage.⁴

Therapeutic options for the treatment of hepatitis B have evolved fast and management has become increasingly complicated.² Antiviral treatment of hepatitis B is one of the most rapidly developing fields in current medicine. Effective treatment is now possible for longer periods and CHB has become a treatable disease. However, the complexity of HBV

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therapy has also increased and much research is needed to tailor therapy for every individual patient.^{2,5,6}

The long-term goals of therapy for CHB are to reduce serum HBV DNA to low or undetectable levels and ultimately reduce or prevent the development of cirrhosis and hepatocellular carcinoma.⁷ The current treatment modalities for CHB are immunomodulatory (interferons) and antiviral suppressants (nucleoside and nucleotide analogues); all with their own advantages and limitations.² Effectiveness of treatment is expressed in terms of HBV-DNA loss, alanine aminotransferase (ALT) normalization, hepatitis B e antigen (HBeAg) seroconversion and improvement in liver histology. HBeAg seroconversion rate is increased with higher pretherapy ALT levels, suggesting that patients with stronger endogenous antiviral defenses to kill hepatocytes harboring covalently closed circular DNA have a better response to direct antiviral effects.⁸

Prolonged effective antiviral therapy is required for sustained suppression of replication and eradication of chronic HBV infection, but long-term treatment with nucleoside analogues has been found to be associated with progressively increasing rates of viral resistance because of emergence of resistant HBV mutant strains. Although resistant HBV strains may have impaired replication capacity compared with the wild HBV, their clinical significance has not been completely clarified yet. To date, there is no proven effective therapy for the resistant HBV mutant strains.⁹ Combination therapy of an immunomodulatory agent and a nucleoside analog should be better in improving the therapeutic efficacy and reducing the emergence of drug resistance than mono-therapy.⁴

The current major problem of antiviral treatment of HBV is the emergence of drug resistance conferred by mutations. The prevalence of mutations increases with longer durations of antiviral therapies, therefore; the optimal management of patients with antiviral-resistant HBV continues to evolve and the decision when to stop the treatment if HBeAg seroconversion is not achieved remains a contentious issue.⁵⁻⁷ Antiviral resistance due to increased replication rate and prevalence of mutations is initially manifested as virological breakthrough and hepatitis flare with marked flare of serum ALT. Hepatitis flares can also occur due to reversal of mutant strains to the wild type after discontinuation of therapy. In severe cases, hepatitis flare may be complicated with hepatic decompensation or even fatality.¹⁰⁻¹²

The next challenge for HBV treatment should be the choice of an optimal antiviral combination in order to minimize the emergence of drug resistance and increase efficacy, particularly to achieve sustained post-treatment suppression of HBV.⁴

Aim: Demonstration of the seroclearance effect of blood-let out (BLO) cupping therapy in patients with hepatitis B virus (HBV) infection.

Design& Setting: Comparative study done in Jeddah/Saudi Arabia.

Patients& Methods: The study included two healthy volunteers and fourteen patients with HBV infection; two of them were still pre-therapy, four patients were under therapy for three months with an immunomodulatory (interferon), four patients under therapy for three months with a nucleoside analog (entecavir) and four under combination therapy (interferon/entecavir) for three months. The patients with HBV illness were of a comparable serum viral levels, age range, body built and weight. The study was held in Jeddah in Saudi Arabia between October 2008 and October 2009. The two volunteer patients, the two pre-therapy patients, two patients of each therapy group had undergone a modified traditional therapeutic procedure of suction blood-let out cupping with skin scratching in the upper back, followed two days later and further one week by revision of the same procedure in the same place. This traditional therapy can be described as "**functional modified multiple mini fasciotomy**".¹⁶

The other two patients of each therapy group continued their antiviral treatment without any additional cupping therapy for comparative purposes.

RESULTS

The two healthy volunteers were serving as control to show that blood-let out in the third cupping session is supposed to be scanty or nil. The patients with CHB upon inclusion in the study were having relatively high serum levels of the virus even those on antiviral therapy for three months. The patients who had cupping therapy done for them including those following no antiviral treatment, have shown marked drop in the HBV in their serum to low detectable levels after the second cupping session and to undetectable level after the third cupping session. The virus was not re-detected in serum until the third month following cupping therapy; it started to re-appear in serum in the fourth or fifth month. On the sixth month, the virus was seen in low detectable levels; it was even less than that of those patients on antiviral treatment but had no cupping therapy done for them.

The figure shows the digital color view of venous blood samples taken from patients with HBV infection before and the morning after the first cupping session.

Ethical Considerations: An informed signed consent was taken from all patients, they were made aware about safety of the procedure of cupping therapy and they were free to quit the study whenever they like. Patients who were on medications were able to follow their regular treatments.

DISCUSSION

The treatment objectives of HBV could be formulated into temporary or permanent reduction of hepatitis (necroinflammatory) activity, arrest of fibrotic progression, prevention of cirrhosis and liver cell failure and prevention of recurrent HBV infection after liver transplantation.¹³ Drug resistance is an expected consequence of antiviral therapy for CHB because of the high rate of HBV replication and the low efficacy of the available therapies in eliminating covalently closed circular HBV DNA.¹⁰

Complete eradication of HBV is not possible, therefore; the efficacy of treatment is assessed according to the rate of viral seroclearance that can limit long-term cirrhosis-related complications.¹⁴ Spontaneous HBsAg seroclearance in CHB infection occurs at an annual incidence of 1-2%. The long-term outcome after HBsAg seroclearance is excellent if there is no pre-existing cirrhosis or viral super-infection.¹⁵

According to experimental evidences, cupping blood-let out therapy is a traditional procedure talented for seroclearance or elimination of the undesired elements from circulation. Suction in cupping blood-let out works specifically on the blood trapped within the interstitial space and is not deriving blood from the circulation as documented by the fact that cupping suction reaches a point where blood-let out stops whatever the suction is.

Revision of cupping one or two days later in the same area of cupping reveals let-out of blood again; the source of this new blood is none but the circulation, denoting that the circulation has sacrificed some of its elements into the interstitial space at the area of previous cupping simply because of being undesired; that is definitely seroclearance. Seroclearance is due to the effect of histamine release at the scratch sites which attracts the circulation to the area of cupping, in addition to production of nitric oxide due to the effect of skin scratching and the action of repeated suction leading ultimately to elimination of the undesired blood elements from the circulation. Seroclearance is a huge biological talent which is not feasible via the available clinical measures; it can augment the individual immunity combating the progress of any chronic viral illness.¹⁶ Revision of cupping procedure in the same place one week later reveals scanty amount of blood in healthy individuals but continues to let blood out in those with chronic illness. This experimental finding should suggest that a continued biological process of seroclearance is being related to cupping therapy in patients with chronic illness. The interstitial space, where a lot of biological processes exist, can be therefore considered as the intelligent yard where cupping therapy can exert its biological talents.

CONCLUSION

Cupping blood-let out therapy can reduce hepatitis B viral load via a huge biological seroclearance process helping in this way to stop progress into complications. The interstitial space constitutes the intelligent yard where cupping exerts its biological talents.

Conflict Of Interest: No conflict of interest is existing.

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