

CLINICAL RESEARCH

Clinical Trial of Homoeopathic Medicine in Dengue/Chikungunya

Introduction

Dengue (DEN-ghee) is a flu-like disease caused by a virus transmitted to human by *Aedes aegypti* mosquito that is endemic in tropics. Dengue hemorrhagic fever is a severe, often fatal, complication of dengue. Dengue shock syndrome is still far more serious complication of Dengue. There is no specific treatment for dengue.

Chikungunya derived from Chicken Guinea, a virus, which is also transmitted to humans by *Aedes aegypti* mosquito, causes a relatively rare form of viral disease resembling dengue. A study conducted by Pasteur Institute in Paris indicates that the virus has undergone a mutation, which enables it to be transmitted by *Aedes albopictus* (Tiger mosquito) as well. The name Chikungunya is derived from the word Makonde meaning "that which bends up" primarily referring to the stooped posture developed as a result of dominant arthralgia. Other symptoms of the disease include fever, headache and skin rash.

There is no specific treatment available for Dengue and/or Chikungunya. Most patients experience relief after a few days, but the pain in the joints persists (in Chikungunya) for long after the other symptoms have disappeared. Like other mosquitoes borne diseases, e.g. dengue fever, avoiding contact with mosquitoes and good sanitation best prevents it. Vector control measures include the elimination of potential breeding places of mosquitoes inside and outside homes, schools and offices. Drums, plastic containers and pails used to store water, discarded natural and artificial containers viz. coconut shells, old tires, empty bottles and flower vases where water is collected provide potential ground for breeding of *Aedes aegypti*. Water needs to be stored in covered containers and the rest where water can be collected during rains need to be disposed off or kept dry. Insect repellents and mechanical barriers such as mosquito nets protect from mosquito bites during sleep.

Although endemics of Dengue have been occurring in India regularly every year during the last decade, 2003 being the worst, its outbreaks in post monsoon season of 2006, which are coupled with endemics of Chikungunya in Maharashtra, Karnataka, Tamilnadu, Andhra Pradesh, Madhya Pradesh, Kerala and Delhi have been alarming and have caused concerned among the common man. Chikungunya is not considered to be fatal, but this time around about 200 deaths in Karnataka, Andhra Pradesh & Kerala have been attributed to it. Although Chikungunya virus is highly infective and disabling but is not reported to be transmissible from man to man, yet a recent report suggest its transmission from mother to foetus. Homoeopathy has been used successfully during the epidemics of Cholera, Influenza, Typhus in the 19th and early 20th Century, before the discovery of virus and dawn of antibiotics and antiviral drugs. It has been used in the recent past and is being used successfully to treat *Japanese encephalitis* in Andhra Pradesh and Eastern Uttar Pradesh.

The Council has, therefore, undertaken studies in Dengue and Chikungunya at its research centers at Kottayam, Chennai, Pondichery, Jaipur, Andhra Pradesh and New Delhi in September-Novemebr, 2006. The objective being to evolve treatment strategy and ascertain Genus epidemicus. A Protocol for the study has been formulated and presented here. The report on the study after its conclusion shall be published.

The study would be conducted as an open clinical trial of homoeopathic medicines. The people presenting with classical manifestations i.e. sudden high fever severe arthralgia and maculo-papular eruptions would be included in the study and subjected to serological investigations for confirmation of Dengue/Chikungunya. Subjects who do not give a positive reaction to serologic test shall be treated symptomatically and his/her record shall be maintained separately and such cases would be presumed to be suffering from Chikungunya or other viral infections. The indicated medicincs will be given in 30 C potency 1 - 2 hourly for one week or till symptoms are resolved whichever is earlier. While being treated

Platelet counts would be monitored on daily basis. Assessment of progress shall be based on clinical progress made by the individual subject(s) and changes in haematological investigations.

GUIDELINES

Step-I Every patient presenting with fever and other associated complaints shall be initially screened for Determination of Genus as per form at **Annexure-II**. The screening would be continued for the enrolment of cases under the study as per **FORM- A**.

Step-II If the patient is suspected of Dengue/Chikungunya, further interrogation shall be made and recorded in the Case Record (**FORM-B**).

Step-III Blood for serologic and haematological Investigations as prescribed in the Protocol, be drawn and stored as per guidelines in the **Annexure-I***

Step-III Genus as may be evolved through the initial study of presenting signs and symptoms of 10-15 patients, may be prescribed. So long as the Genus is not evolved, symptomatic treatment may be given as prescribed in the Protocol.

Step-IV Periodical Follow up may be made as prescribed in the Protocol.

Step-V Preiodical reports shall be sent weekly and a final report shall be submitted after the outbreak is over or the conclusion of the study.

PROTOCOL

Title	Open Clinical Trial of Homoeopathic Therapeutic Efficacy in the Management of people with Dengue/Chikungunya.
Objective	To ascertain whether homoeopathic medicine(s) have a clinical role in the management of Dengue/Chikungunya.
Duration of Study	Till the outbreak of Dengue/Chikungunya subsides.
Inclusion criteria	People, including children, with classical clinical manifestations of Primary Dengue/Chikungunya infection will be included in the study and treated as outdoor patients.

Classical manifestations considered for enrolment of a subject in the study will be as follows:

Primary Symptoms

1. Sudden, high fever
2. Arthralgia, severe (tearing pain in joints)
3. Eruptions maculo-papular and/or petechial

Associated symptoms

4. Headache,
5. Nausea, vomiting
6. Conjunctivitis,
7. Photophobia,

8. Insomnia

Subject presenting with all the above primary symptoms shall be considered for enrolment in the study and subjected to serologic investigation for confirmation of Dengue OR Chikungunya.

** Subjects presenting with classical symptom of Dengue OR Chikungunya who do not give a positive reaction to serologic test shall be treated symptomatically and his/her record shall be maintained separately. He/She would be subjected to repeat serologic investigation after 3-4 days for confirmation of his status.*

Exclusion Criteria People with Dengue Haemorrhagic fever Or Shock Syndrome.

Laboratory Investigation All subjects presenting with classical manifestations of Dengue/Chikungunya would be primarily considered for enrolment in the study and the following investigations would be carried out:

1. Serologic investigation (Rapid Test for antibodies against Dengue (once at the time of entry)*)
2. Platelet Count (At entry, to be repeated every third day till fever subsides)
3. Hb (At entry and after fever subsides)
4. WBCs (At entry and after fever subsides)
5. RBCs (At entry and after fever subsides)

** As the facility for serologic investigation may not be readily available, 5 ml blood to be drawn in an EDTA coated tube. Two ml blood may be centrifuged at 4000- 5000 X g. for 5 minutes. The serum may be stored in Aliquot and kept at minus 18C in deep freezer portion of Refrigerator. Other investigations may be carried out from the remaining 3 ml of the blood sample.*

*** Serologic test for Chikungunya is not readily available. As such serologic test for Dengue would either confirm or rule out Dengue. Such cases would be presumed to be suffering from Chikungunya and their sera will be subjected to Chikungunya test later.*

Homoeopathic Therapy Homoeopathic medicine(s) shall be prescribed on the basis of presenting signs and symptoms characteristic of Dengue/Chikungunya as specified in homoeopathic philosophy for the treatment of acute epidemic disease. Indicated remedy will be given in 30 C potency at 1-2 hourly interval, so long as the fever lasts or one week, whichever may be earlier*.

** Subjects with residual complaints after the resolution of the primary symptoms of Dengue/Chikungunya will, however, be given symptomatic homoeopathic treatment even after the study is over.*

Follow-up Subjects enrolled in the study will be followed-up everyday/alternate day, preferably in the OPD, failing which at the subject's place of residence.

Duration of Treatment One Week.

Adverse Event Any adverse effect or deterioration in the condition of individual subject occurring during the clinical study shall be recorded. In case subject enrolled in the study does not show any positive response in 2 days after entry in the study or his condition deteriorates, he/she would be referred to other hospital for appropriate treatment.

Outcome Assessment Assessment of progress shall be based on clinical progress made by the individual subject(s) and changes in haematological investigations.