Chapter-2
Case detection and Management

People living in malaria-endemic areas need to be informed that any febrile disease might be malaria and that malaria can rapidly become a very dangerous disease. They also need to be informed about where they can obtain qualified care for malaria. This is particularly important for migrants to endemic areas (for example temporary labour), who may be ignorant both of what malaria is and where treatment is available.

Diagnosis of malaria

A patient with fever and no other obvious cause is considered a case of *suspected malaria*. A more elaborate definition is presented in the table *Case definitions applied in* NVBDCP. In practice the ascertainment of an "obvious cause" can only be expected from well-trained and experienced health staff. A volunteer or health activist working in a high-risk area should be taught to consider any fever case in the absence of specified symptoms as suspected malaria.

Any volunteer, health worker or health professional observing a case of suspected malaria must immediately initiate a diagnostic test by

a. Microscopy of blood for malarial parasites and/or
b. Rapid Diagnostic Test

If a microscopy result can be made available to the provider managing the patient within same day, then only microscopy is done. Antimalarial treatment is given on the basis of a positive slide result. If a microscopy result cannot be available within same day, RDTs are to be used. RDTs are to be supplied and used for diagnosis in villages (or subcenter areas, where village data is not available) where

a. Pf % > 30 and SfR > 2%:
b. Consistently high API and deaths are reported
c. Inaccessible areas - cut off during transmission season
d. Limited road and public transportation facility for treatment of severe & complicated malaria requiring immediate medical attention

An RDT is done in front of the patient and a slide is taken. If the RDT is negative, the slide is sent for microscopy. If it is positive, the patient is treated according to diagnosis and the slide is discarded in order to reduce the load on microscopy services. Wherever a microscopy result **can** be made available within same day, microscopy should be maintained as the only routine method. RDTs should be used in PHC and other health facilities only in emergencies in the absence of the laboratory technician (LT).
It should be noted that these tests have a shelf-life of only 12 months and that they may deteriorate at high ambient temperatures.

Interpretation of Rapid diagnostic tests

If a suspected malaria patient has a negative RDT, it can be assumed that the patient does not have malaria and another cause of the symptoms should be sought. If no other cause can be found and the clinical suspicion is high (e.g. intermittent fever with rigors and sweats), the test should be repeated after about 24 hours and special efforts should be made to obtain the microscopy result rapidly.

All fever cases diagnosed positive by either RDT or microscopy need to be promptly started on effective treatment. The treatment will depend upon the species of Plasmodium diagnosed.

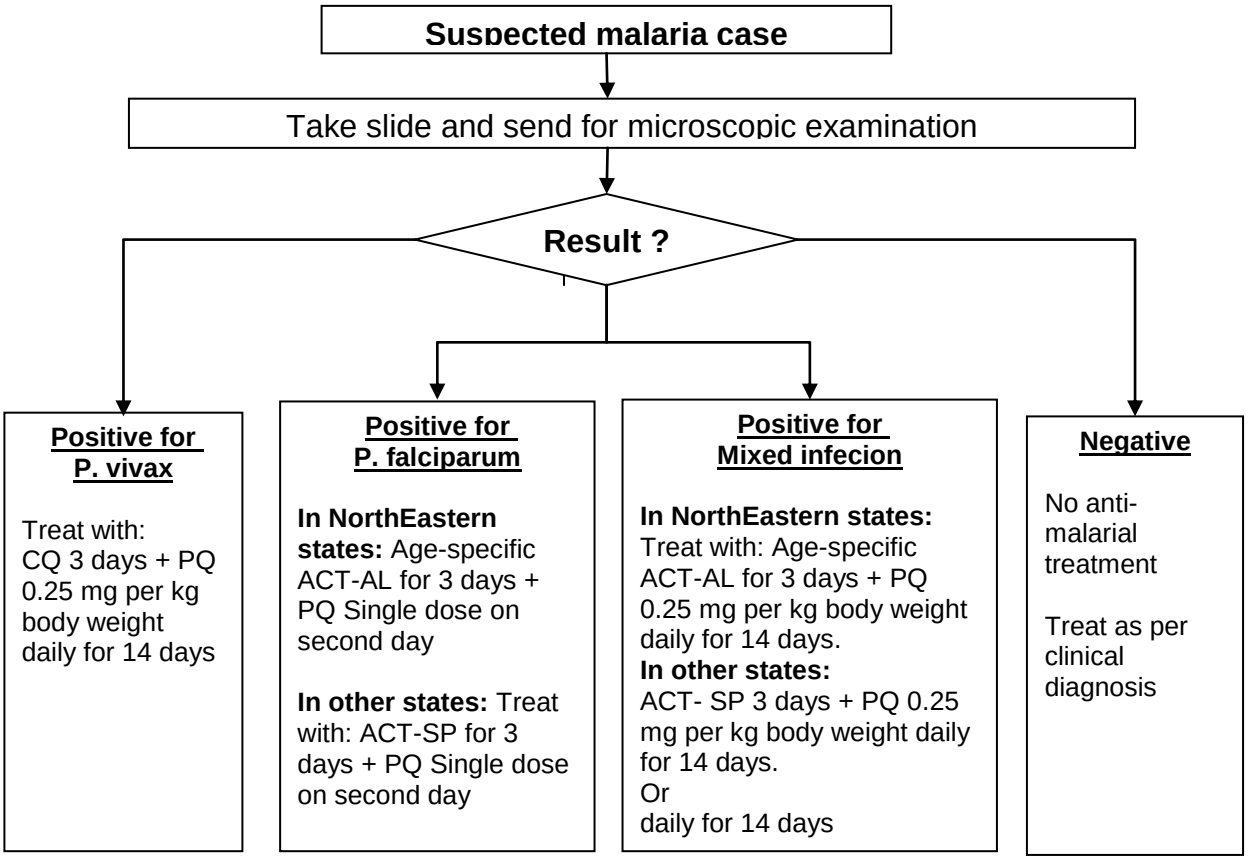
The aims of the Malaria case management are:

- To provide prompt and complete treatment to all suspected/ confirmed cases of malaria
- To prevent progression of mild cases of malaria to severe or complicated form of malaria
- To prevent deaths from severe and complicated malaria
- To prevent transmission of malaria
- To minimize risk of spread of drug resistant parasites by use of effective drugs in appropriate dosage by everyone.

Diagnosis and Treatment for Malaria

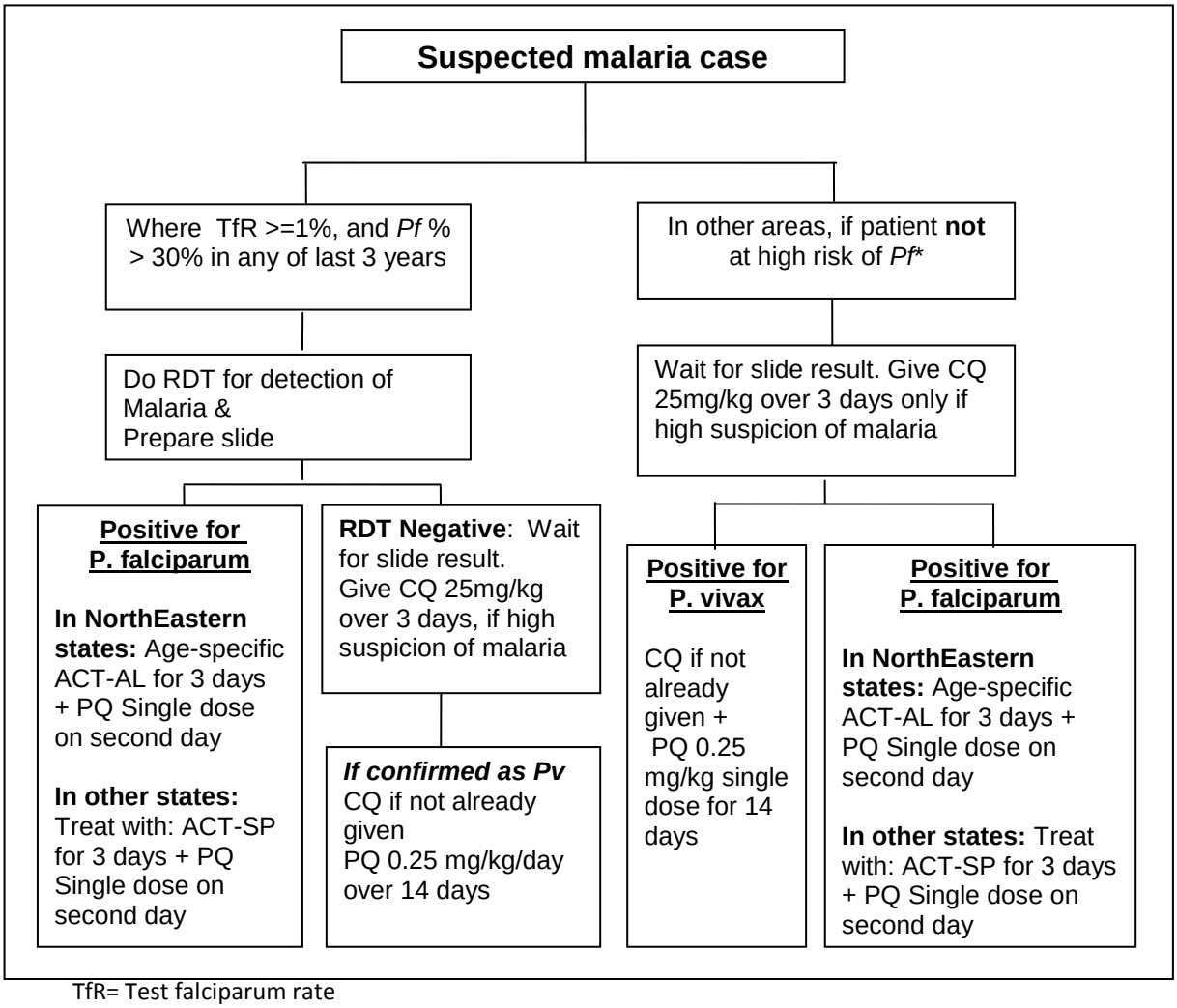
All fever cases diagnosed as malaria by either RDT or microscopy should be promptly given effective treatment. The medicine chosen will depend upon whether the patient has vivax malaria or falciparum malaria as diagnosed by the blood test. The flow charts in different settings for diagnosis and drug selection for the treatment of malaria are as under:

Where microscopy result is available within same day



ACT-AL - Artemisinin-based Combination Therapy- Artemether - Lumefantrine
ACT-SP- Artemisinin-based Combination Therapy (Artesunate+Sulfadoxine-Pyrimethamine)
CQ - Chloroquine
PQ - Primaquine

Where microscopy result is not available within same day and Monovalent RDT is used



TfR= Test falciparum rate

Note: if a patient has severe symptoms at any stage, then immediately refer to a nearest PHC or other health facility with indoor patient management or a registered medical doctor.

Note: PQ is contra-indicated in pregnancy and in children under 1 year (Infants).

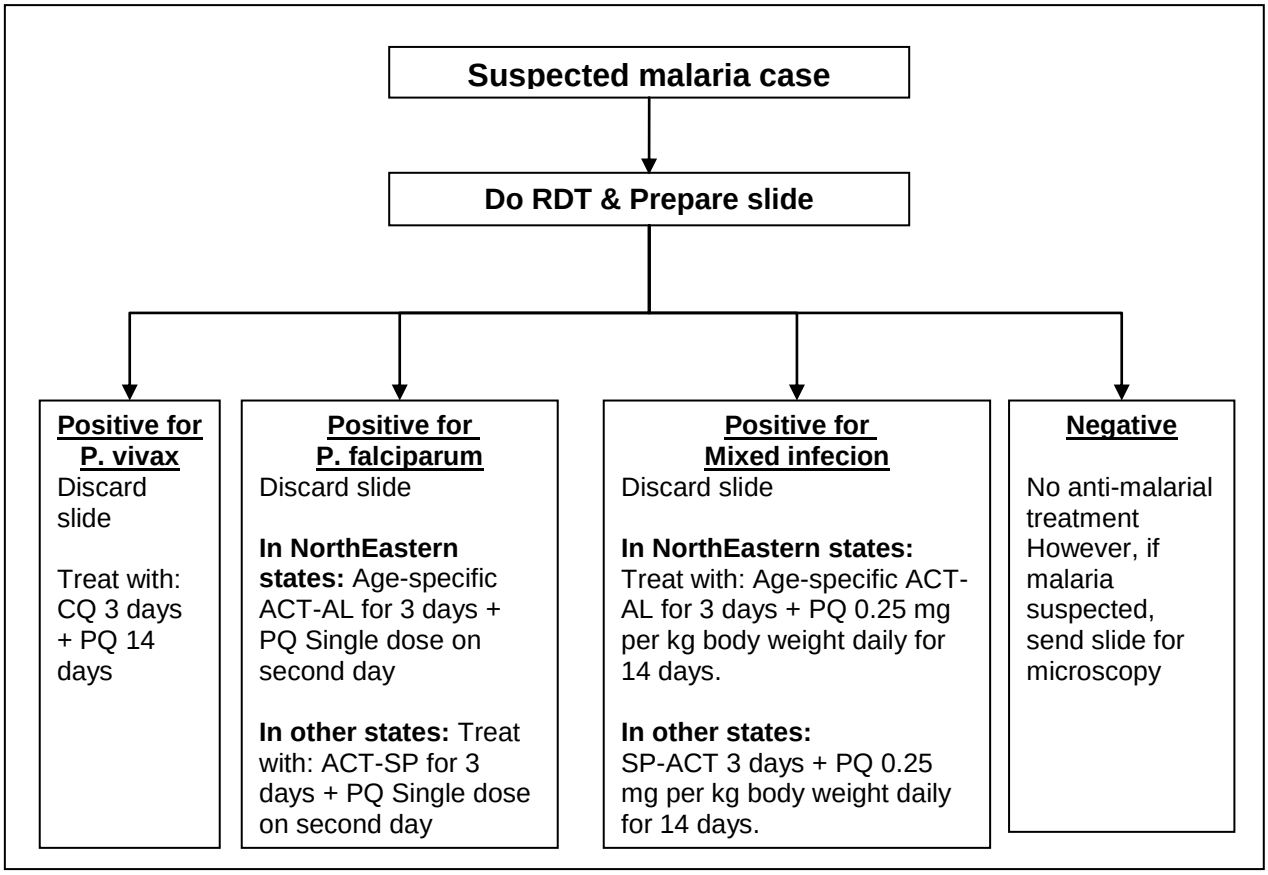
ACT-AL - Artemisinin-based Combination Therapy- Artemether - Lumefantrine

ACT-SP- Artemisinin-based Combination Therapy (Artesunate+Sulfadoxine-Pyrimethamine)

CQ - Chloroquine

PQ - Primaquine

Where microscopy result is not available within same day and Bivalent RDT is used



Note: if a patient has severe symptoms at any stage, then immediately refer to a nearest PHC or other health facility with indoor patient management or a registered medical doctor.

Note: PQ is contra-indicated in pregnancy and in children under 1 year (Infant).
ACT-AL - Artemisinin-based Combination Therapy- Artemether - Lumefantrine
ACT-SP- Artemisinin-based Combination Therapy (Artesunate+Sulfadoxine-Pyrimethamine)
CQ - Chloroquine
PQ - Primaquine

Treatment of *Vivax* Malaria

Diagnosis of *vivax* malaria may be made by the use of RDT (Bivalent) or microscopic examination of the blood smear. On confirmation following treatment is to be given:

Drug schedule for treatment of *P vivax* malaria:

1. Chloroquine: 25 mg/kg body weight divided over three days i.e.
10 mg/kg on day 1,
10 mg/kg on day 2 and
5 mg/kg on day 3.