

prevalence is high(1), but not as high as 34% described using the older criteria(3).

Clinical diagnosis only leads to suspicion of MVP and confirmation is always by echocardiography. It is not true that one should rely on clinical criteria alone as this would result in both underdiagnosis and overdiagnosis of this condition. Although, MVP is normally a benign condition, it can lead to disabling complications in some in adult life. It has also been shown that MVP corrects itself by adulthood due to changing morphology of mitral annulus with age. How frequent is this process of auto-correction? What are the long term complications of this condition? Is it cost-effective to diagnose MVP at childhood? These are some of the many questions that need to be answered by appropriate long term investigations. The aim of our study was to focus attention to this often neglected condition.

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Cerebral Symptoms With *P. Vivax* Malaria

Cerebral malaria has been reported to occur on rare occasions in vivax and even quartan malarias(1). *Plasmodium vivax multinucleatum* has been reported to produce cerebral symptoms in China, where there is no falciparum malaria(2). We report two cases in whom the cerebral symptoms may be attributable to *P. vivax* infection.

A three-year old male child was admitted with the history of high grade fever for three days, altered sensorium and generalized tonic-clonic seizures for one day. There was no history of dog-bite, recent vaccination, ear-discharge or head-injury. Physical examination revealed a febrile (38°C) child in Grade II coma, having abnormal movements of all the limbs, generalized hypertonea and brisk tendon reflexes. Plantars were extensors. Fundus was normal. The cardiovascular and respiratory systems were normal. Treatment with injection phenobarbitone, mannitol, crystalline penicillin and intravenous fluids was started. On investigation, hemoglobin was 9.7 g/dl; TLC was 12,200/cu mm; and cerebrospinal fluid was normal. The peripheral smear was positive for *P. vivax*. Serology for Arbo-virus was negative. The child was put on parenteral chloroquine therapy (5 mg/kg over one hour, 12-hourly). Abnormal movements and fever continued on the next day but there was improvement in the general condition. On

third day, the child started having repeated convulsions and was treated with parenteral diazepam, dilantin-sodium and paraldehyde but did not respond and expired.

A two-year-old male child was admitted with the history of fever with chills on alternate days for 20 days and altered sensorium with seizures for 1 day. Physical examination revealed high fever, altered sensorium and hepatosplenomegaly. By investigation meningitis (normal cerebrospinal fluid and negative viral serology), enteric fever (negative Widal test) and pulmonary tuberculosis (normal skiagram of the chest) were ruled out. Peripheral smear demonstrated trophozoite and ring forms of *P. vivax*. Treatment with parenteral chloroquine and intravenous fluids improved the sensorium and general condition of the child but he continued to be irritable and febrile. Blood culture showed growth of *E. coli*, sensitive to norfloxacin, which was started orally and the child became afebrile in 48 hours. He was discharged after three weeks of hospitalization.

Both the above patients were admitted to the hospital with altered sensorium along with fever. The common causes of such symptoms, e.g., enteric fever, meningitis and viral infection were ruled out by investigations. *Plasmodium falciparum* infection was also ruled out by thorough examination of the peripheral smear of the patients.

It is possible, therefore, that the symptoms/complications were due to *P. vivax* infection. Few such cases have been reported in the literature.

In infants and even in adults debilitated by other diseases, acute vivax malaria has caused deaths due to severe anemia, hyperpyrexia and splenic rupture(3). The second patient had bacteremia which can also

cause altered CNS functions but pneumonia, bacteremia and UTI have been reported to be associated with severe and complicated falciparum malaria. Gram-negative organisms have frequently been cultured from the blood of patients with cerebral malaria(4).

A fulminating type of vivax malaria has been described in children and young adults characterized by abrupt onset with severe headache, vomiting, convulsions, coma and cheynestokes respiration with death ensuing in two to three hours. However, the syndrome was considered to be a host reaction than due to particular vivax strain(5).

This implies that even *P. vivax* malaria can cause complications and thus should be diagnosed and treated promptly.

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Assessment of Newborn Baby's Temperature by Human Touch: A Potentially Useful Primary Care Strategy

With reference to the recent article on 'Assessment of newborn baby's temperature by human touch: A potentially useful primary care strategy'(1), I would like to offer the following comments.

There is an urgent need to develop an index of hypothermia which is comparable to actual temperature measurements at critical levels and can be employed usefully by all cadres of health workers as well as the mother in order to recognize hypothermia early and to avoid its dreaded consequences. The study is a right step in this direction but there are certain lacunae.

The maintenance of body temperature is crucial to the survival of LBW, preterm and all sick newborns. Term babies usually maintain their temperatures at 28°C (which in the present study was the ambient environmental temperature). The study has been done exclusively in those babies who were not at increased risk of hypothermia. It would have been ideal, had the study been done in LBW and preterms, who even in the field settings, are the candidates for developing hypothermia.

Due to the above mentioned reasons,

only one baby, in the entire study had abdominal/core temperature of less than 36.0°C and none had real hypothermia (defined as core temperature <35.5°C or skin temperature <35.0°C)(2). This means that the three observers had little chance of exercising their skills on hypothermic babies. Thus, the inference drawn from the study that human touch can accurately predict the skin temperature does not hold true for all possible temperature ranges. In this context, the temperature of forehead and foot become irrelevant as it is the abdominal skin temperature which is closest to the core temperature.

While designing a study, the temperature sensing by human touch should also have been compared with other early clinical manifestations of hypothermia such as sluggishness, inactivity and refusal to feed in relation to their respective positive and negative predictive values. Only by doing this analysis, one method can be claimed superior to others and then can be further recommended as a primary care strategy.

Secondly, the art of sensing the temperature is difficult to be imparted through simple verbal/practical training of 4 to 8 weeks at an NICU. It is only the experience that counts. In the present study also, the discriminatory capability of the personnel to correctly perceive the skin temperature by touch was directly related to the experience of the pediatrician. However, all the pediatricians in the present study had an experience of minimum 5 years at high level II Neonatal Care Unit. It would be interesting to study the mother's/paramedical workers' perception of baby's temperature by touch and compare it with that of experienced personnel.

As the authors have themselves pointed out their observations should be validated in the field settings. Till such time, one can