LETTER TO THE EDITOR

AFEBRILE *PLASMODIUM KNOWLESI* SEVERE MALARIA WITH A FATAL OUTCOME

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I read with great interest the article by Shah *et al*.[1] on the causes of fever in adults in Thall and surrounding areas. Malaria was found to be the most common cause of fever in the study. However, clinicians need to be aware that not all malaria infection present with fever. I would like to share a fatal case of *Plasmodium knowlesi* severe malaria with no fever.

An 83-year-old woman with a history of hypertension and dyslipidaemia presented with worsening lethargy for two days. According to her caregiver, the patient did not have a fever. There was no headache, vomiting, or seizure. On the day she presented to the hospital, she was found to be in a state of reduced consciousness.

Her GCS was E1V1M4 at the time of her initial assessment, and she was afebrile (36.8 °C) and euglycemic. Her blood pressure was 70/50 mmHg, and her heart rate was 115 beats per minute. She was gasping and her oxygen saturation was 94% while breathing ambient air. A systemic examination revealed no abnormalities. The patient was intubated for airway protection. Concurrently, inotropic support and fluid resuscitation were administered. The chest radiograph and electrocardiogram were both normal. An echocardiogram revealed an underfilled, hyperdynamic left ventricle. We were unable to rule out brain pathologies because computed tomography was not available at our facility.

Haematological analysis revealed leucocytosis (white blood cell count = $14.7x10^9$/L) and thrombocytopenia (platelet = 62 x 10^9/L) with normal haemoglobin. She had renal impairment, with a serum creatinine level of 204 µmol/L. Her serum bilirubin and lactate levels were elevated at 27 µmol/L and 2.8 mmol/L, respectively, while her liver transaminases were normal. Given the involvement of multiple organs, thrombocytopenia, and the endemic nature of malaria in the area, severe malaria was suspected. As a result, an urgent Giemsa-stained blood film was sent, and *Plasmodium knowlesi* was identified, with estimated trophozoite counts of 11,710/µL. Following receipt of the results, an intravenous artesunate dose of 2.4 mg/kg was immediately administered.

Throughout her hospital stay, she was afebrile. Her condition, however, did not improve in terms of hemodynamic or biochemical parameters. The parasitaemia was increasing, with a trophozoite count of 36,320/µL in the next 6 hours. She died within 24 hours of being admitted to the hospital from severe malaria complicated by multiorgan failure.

Malaria is a mosquito-borne disease caused by five protozoa: *Plasmodium falciparum*, *P. vivax*, *P. malariae*, *P. ovale*, and *P. knowlesi*. *P. falciparum* is responsible for more than 90% of malaria deaths worldwide, making it the single most important threat to public health.[2] However, *P. knowlesi* has become increasingly recognised as a cause of severe malaria with high morbidity and mortality.[3,4] A rare but severe complication such as spontaneous splenic rupture has been reported in *P. knowlesi* malaria.[4]

Since fever is a hallmark feature of malaria infection, clinicians frequently overlook this diagnosis in the absence of fever. Cases of malaria infection without fever (afebrile malaria) are very infrequently reported.[5,6] An afebrile malaria case was defined as absence of fever within the past 48 hrs and an axillary temperature 37.5 °C at the time of examination.[7]

Our patient had no prior history of fever or fever while being treated in the hospital. Despite this, a timely diagnosis of malaria was made because of the clinicians' high level of clinical suspicion based on the biochemical profile and epidemiological risk factors. The patient however passed away despite an early diagnosis and prompt administration of anti-malarial medication because of the severity of the illness and advanced age, an important risk factor for severe malaria.[8] This case demonstrated the importance of suspecting malaria infection by performing malaria antigen testing and blood smears on any patient who becomes ill in a malaria-endemic area, regardless of the presence or absence of fever.

Conflict of interest

None declared.

Keywords: Afebrile malaria; *Plasmodium knowlesi*; Thrombocytopenia; Acute renal failure

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