**CASE REPORT**

‘Not another UTI … ’

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Abstract

Malaria includes a global disease burden with approximately 300–500 million cases worldwide annually. Varied symptomatology creates a diagnostic challenge. This is a case report of a stroke rehabilitation facility resident who developed *Plasmodium ovale* infection, several months post-exposure. Physicians should maintain a broad list of differential diagnoses, thinking beyond the range of common diagnoses.

**Keywords:** Plasmodium ovale, aged, 80 and over, rehabilitation, elderly

An 85-year-old male former missionary was admitted with a left-sided stroke to a Stroke Rehabilitation Unit. He presented with acute onset right-sided weakness and slurred speech.

The past medical history included hypertension, atrial fibrillation, hypercholesterolaemia, bilateral hip replacements, primary pulmonary tuberculosis (1950s) and one confirmed episode of malaria (1960).

He had lived in Africa for 50 years, most recently Malawi. He was a non-smoker, with minimal alcohol intake. He was transferred from Malawi to a hospital in Zambia, and diagnosed with a left-sided cerebrovascular accident (CVA) with right hemiparesis and dysarthria. At 10 days, he travelled to Ireland. It was felt he would benefit from intensive multidisciplinary rehabilitation.

Examination confirmed mild right-sided weakness and dysarthria. He was afebrile, anicteric, with normal cardiovascular, respiratory and abdominal exam and no evidence of organomegaly.

He underwent therapy for a month. Upon returning from a weekend leave, he reported feeling ‘shivery,’ and had taken to bed. Exam was unchanged, he was afebrile, and it was decided to manage expectantly.

Two days later he experienced vomiting, shivering and urinary incontinence. Temperature was 39°C, exam was unchanged, dipstick revealed blood and protein. He commenced Co-amoxiclav for suspected urinary tract infection (UTI).

He improved the following day, with a temperature of 36.7°C. The next day he vomited, became febrile (38.4°C) and developed scleral icterus. Investigations showed thrombocytopenia and hyperbilirubinaemia; antibiotic-induced thrombocytopenia was considered.

The following morning he reported feeling ‘excellent’. He deteriorated the next day, becoming tachycardic, pyrexial and vomiting. White cell count and platelets remained low, with rising bilirubin. Thick and thin blood films were then requested, confirming *Plasmodium ovale*.

He commenced primaquine, at 7 days following the onset of these symptoms, with dramatic improvement. Stroke rehabilitation was completed; he was discharged well.

Fever and infection are common after a stroke and in the majority of cases are due to respiratory infections or UTIs. Tropical diseases such as malaria must be considered in patients who have been resident in endemic areas even though the patient may have been disease free for many years. The global health burden of malaria is well known, with about 500 million cases annually [1]. Symptoms and signs of malaria are well described, including tachycardia, tachypnoea, chills, malaise, fatigue, diaphoresis, headache, cough, anorexia, nausea, vomiting, abdominal pain, diarrhoea, arthralgias and myalgias. Physical findings may include jaundice and hepatosplenomegaly. The classic description of a cyclical fever is a relatively late finding, following synchronisation of schizont rupture and release of merozoites from erythrocytes.
Relapse following treatment may occur in the setting of *P. vivax* and *P. ovale*, since the life cycle of these species includes hypnozoites, a quiescent hepatic phase. Most relapses occur within 12 months; however, relapses years later are documented [2]. It is also important to note that cerebral malaria, while there is no evidence for it in this case, is a known cause of stroke itself [3].

Particular clinical settings (e.g. geriatric wards) are associated with particular illnesses (UTIs, CCF, CVAs and pneumonias etc). The incidence of UTI post-stroke has been reported as high as 24% [4]. However, caution is advised in the interpretation of urine dipstick tests in a nursing home population, its positive predictive value has been shown to be as low as 51%, indeed asymptomatic bacteriuria in this patient group is common and treatment is not generally recommended [5]. It is important to maintain good clinical practice, based on close observation of the individual patient, together with an active awareness of the rarer diagnoses while taking a detailed travel history in all patients.

### Key points

- Post-stroke fever has many possible aetiologies.
- Malaria is a great mimicker, presenting with many different and varying symptoms.
- Cognitive biases lead to delays in accurate clinical diagnosis.

### Conflicts of interest

None declared.

### References


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