

Planning a caesarean birth for a patient with active Plasmodium falciparum malaria infection



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Introduction

We present a case of a patient with severe falciparum malaria in her third trimester of pregnancy.

Case Summary

A 33-year-old primigravid female at 32⁺⁰ presented with fever, headache and lower abdominal pain to our centre after moving from Western Africa.



- Platelets 68 x10⁹/L
- CRP 77 mg/L
- Thin Blood Film: Plasmodium Falciparum
- Parasite Count 16% (>2% considered severe)

MDT conclusion: maternal deterioration inevitable given poor disease markers and foetal demise likely. Patient should undergo caesarean birth under general anaesthetic followed by admission to intensive care.

In accordance with patient wishes:

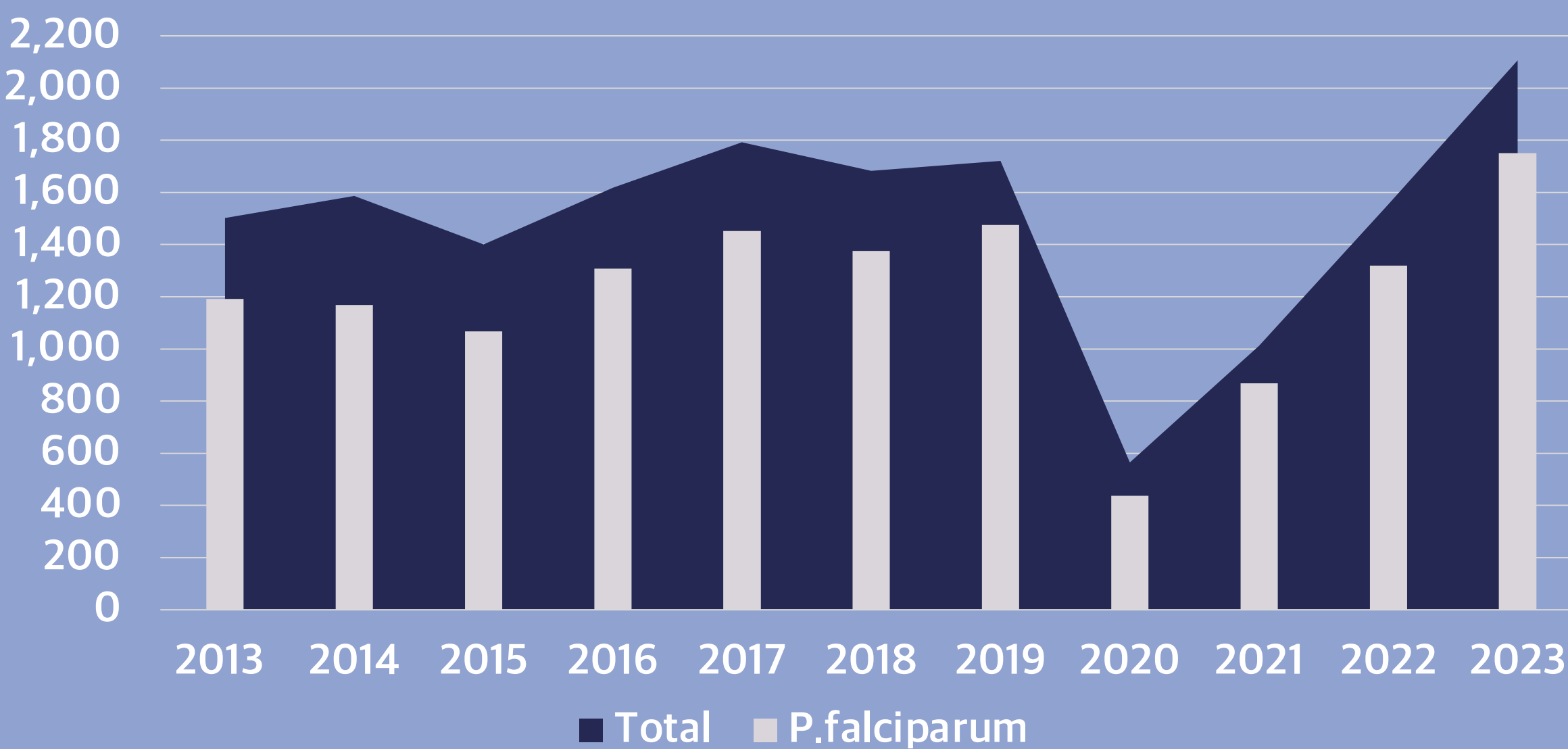
- Admission to labour ward for monitoring
- Intravenous artesunate
- Plan made for caesarean birth under general anaesthetic in case of acute deterioration

Advice was also sought from Infectious Disease colleagues at a site more familiar with managing malaria in pregnancy.

Outcome:

- Patient condition improved and they were discharged for outpatient follow-up one week after presentation
- Patient completed malaria treatment and was no longer considered to have active infection
- Unplanned caesarean birth at 37⁺⁵ for foetal distress under spinal anaesthetic. Mum and baby both did well.

Imported Malaria Cases, UK, 2013-2023 [1]



Malaria in the UK

- The incidence of imported Malaria cases has steadily risen over the last four years with the greatest proportion of UK cases (47%) being concentrated in London [1].
- Centres elsewhere therefore see only a handful of cases per year so may lack the institutional expertise to deal with more unusual cases e.g. malaria in pregnancy.
- Presenting to a centre where Malaria is seldom seen is a known risk factor for mortality [2]
- RCOG Green-Top Guideline No. 54b on malaria management in pregnancy includes several UK resources to contact for advice [3]



Salient Clinical Issues

There is a paucity of literature on the anaesthetic management of pregnant patients with malaria.

Key points to consider are:

Anaesthetic Technique

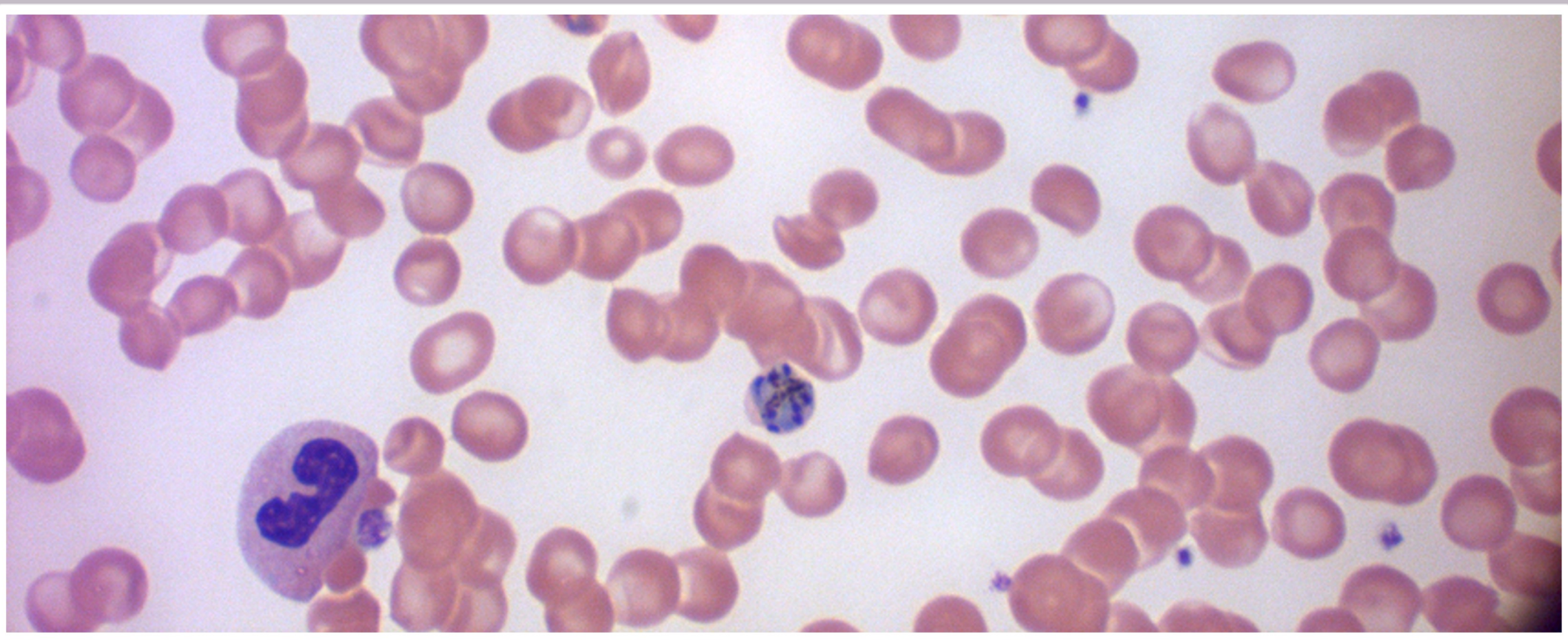
- Choice will likely be determined by disease sequelae e.g. thrombocytopenia, coagulopathy, cerebral malaria, circulatory instability.
- Active infection with malaria *in theory* not a contraindication to neuroaxial techniques although few reported cases of this being carried out [4].

Post-Operative Reactivation

- Physiological stress of surgery may induce relapse of infection.
- More common with P. ovale and P. vivax but it has also been reported with P. falciparum.
- Regular postoperative blood smears are recommended [4].

General Measures

- Involve the Multidisciplinary Team early-on.
- Make a detailed plan in case of acute deterioration.
- Seek specialist advice from centres with expertise managing complex cases (RCOG Green-top Guideline 54b contains useful contacts [3]).



Blood smear image demonstrating schizont Plasmodium falciparum (bottom centre) [5]

Risk Perception and Management

This case highlighted the significant mismatch that can occur between a patient's perception of risk and that of their healthcare team. Some of this will be due to the premunition that can be developed when living in an area of stable endemicity. Patient risk in these populations may still be high for several reasons:



- Pregnant women are both more susceptible to and more likely to die from malaria than their non-pregnant counterparts, even in endemic areas.
- Premunition to malaria can be lost without continual exposure e.g. in those moving from an area of stable endemicity to the UK.

Notably the degree of parasitaemia was a source of concern for the healthcare team in this case however it has been suggested that the level classifying infection as 'severe' may be different in those from areas of high-transmission. The presence of vital organ dysfunction may be a better indication of prognosis [6].

References

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