

Lessons learnt from an unexpected cause of persistent post-operative pyrexia

All those who work within the field of medicine will have experienced lesions that have influenced the way that they practice. I would like to share one such episode. Although the events that are described occurred a number of years ago, the lesson learnt is as relevant now as it was then.

An otherwise fit-looking male in his forties presented to Casualty with an acute abdomen.

He had a history of dyspepsia that he had been self-medicating with antacids. He worked underground in a gold mine. He had not left the gold belt of the far West Rand and North West province in the past 18 months. At laparotomy, a perforated peptic ulcer was found. This was over-sown and a thorough peritoneal lavage was carried out. He was transferred to the ICU where he developed an intermittent high-spiking temperature. Intravenous treatment with a third generation Cephalosporin was commenced. Despite this, his temperature continued to spike with no sign of a response to the treatment. Thirty-six hours after the initial laparotomy, he was taken back to theatre with a provisional diagnosis of post-perforation sepsis, and a re-look laparotomy was performed. No evidence of abscess formation or sepsis was found. A repeat peritoneal lavage was carried out, the abdomen closed, and the patient returned to the ICU where a triple antibiotic regimen was commenced.

Despite the negative second laparotomy and the 'big gun' antibiotic treatment, his high-spiking temperature continued, unabated. Twenty-four hours later, a sonar examination of the abdomen was performed in the ICU. No intra-abdominal fluid collections were found and no cause for the unremitting temperature was identified. The radiologist did, however, report that the spleen was enlarged.

In view of the known association between splenic enlargement and malaria, the remote possibility of malaria was considered, and a blood specimen sent as 'rule out malaria' to the laboratory. A short while later a telephonic report was received that abundant malarial parasites had been observed. The patient was treated for malaria and eventually made a full recovery. Had the diagnosis of malaria been delayed for as little as a further twenty-four hours, the outcome, despite treatment, might well have been fatal. Repeat questioning confirmed that he had not left the malaria-free area where he lived and worked for the past 18 months.

The gold mine employed a large number of workers from Mozambique. It was subsequently postulated that a malaria-carrying mosquito had travelled from a malaria area in Mozambique to the mine in a taxi, and was the source of his infection.

Unusual malaria cases, affecting persons with no recent history of travel to malaria transmission areas are uncommon, but the phenomenon is well-documented. It is generally attributed to the malaria vector, *Anopheles* mosquitoes, being accidentally

transported by vehicles from malaria areas. This form of disease is called Odyssean malaria; also known as airport, suitcase, minibus, or taxi-rank malaria.

As recently as October 2017, six cases were reported to the National Institute for Communicable Diseases (NICD). Four of these occurred in Kilner Park, Pretoria; and two in Kempton Park, Ekurhuleni. Unfortunately, one patient from Kempton Park demised.¹

In occupational and preventive medicine, much emphasis is placed on identifying cause and related effect. For example, exposure to excessive noise predisposes to hearing loss; exposure to dust containing respirable quartz crystals predisposes to silicosis. Establishment of these associations is critical so that exposure to the causative agent can be mitigated.

The establishment of true cause and effect requires in-depth analysis and research, as co-incidental unrelated associations are common. This is particularly problematic where there is a chronological arrangement of events, so that an occurrence is attributed to whatever event preceded it. This has been termed *post hoc, ergo propter hoc*: 'After it, therefore because of it.' The case described provides a good example of a fallacious assumption of cause and effect. There are many examples of chronological events that are patently ridiculous. The stars grow dim as dawn approaches; therefore, the dimming of the stars causes the sun to rise.

In clinical medicine, the approach to problems tends to follow the doctrine contained in what is referred to as 'Occam's Razor'. This alludes to the scientific principle that *for any given set of explanations for an event occurring, it is most likely that the simplest one is the correct one*. While this is true in most instances; as is the case with chronological events, there are many exceptions, the case of the man with the perforated peptic ulcer and unremitting spiking fever, as described above, being one.

The 'take home' lesson from this episode is that malaria should be considered in the differential diagnosis of any unremitting pyrexia, *and that it is not necessary for a person to have travelled to a malaria area, in order to contract malaria*.

Dr Don Emby

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REFERENCE

1. National Institute for Communicable Diseases. Alert: Odyssean Malaria in Pretoria and Kempton Park; 12 Oct 2017. Available from: <http://www.nicd.ac.za/index.php/alert-odyssean-malaria-airport-or-taxi-malaria-in-pretoria-and-kempton-park/> (accessed 15 Mar 2018).