Malaria or flu? A case report of misdiagnosis

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ABSTRACT

We present and discuss elaborately a case of malaria misdiagnosis in a 27-year-old woman in Chalus, Mazandaran Province, North Iran in 2013. The patient has been complaining of fever, shivering and myalgia for three months. Although she visited two physicians during this time, the problem still remained owing to misdiagnose. Eventually in hospital after a precise examination on her thick and thin blood film, the causative agent of disease was diagnosed as *Plasmodium vivax*. The patient received treatment accordingly and all clinical manifestations were vanished.

PEER REVIEW

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Comments

This is an interesting and important case report in which authors have described a case of misdiagnosis of malaria infection with flu in north of Iran. The results are helpful in order to prevent misdiagnosis of malaria infection which is not uncommon in sub tropical and tropical areas with initial clinical manifestations of other conditions particularly flu and viral diseases.

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KEYWORDS
Malaria, Infection, Tropical disease, Diagnose, Iran

1. Introduction

Malaria is an infectious disease in tropical and subtropical nations, with a considerable annual morbidity and mortality. Approximately up to 40% of the world’s population is at risk for malaria infection and 100 countries are in endemic areas for malaria transmission[1,2]. This cosmopolitan and devastating disease is responsible for nearly 216 million episodes and 66,5000 malaria deaths cases which were reported in 2010[3,4].

Malaria is transmitted from human-to-human by the female *Anopheles* mosquito which is definitive host and plays a prominent role in transmission of this life-threatening disease. Malaria caused by a parasite, *Plasmodium* includes species: *Plasmodium falciparum*, *Plasmodium vivax* (*P. vivax*), *Plasmodium ovale*, and...
Plasmodium malariae. The most serious clinical forms are caused by Plasmodium falciparum and P. vivax which accounts for the majority death cases in children under 5 years of age in tropical and sub-tropical countries[8].

Considering all aforementioned facts and socioeconomic burdens of malaria, there is no shadow of doubt that malaria diagnosis is a matter of high importance in all settings since misdiagnosis can result in noticeable morbidity and mortality. Therefore, we present a case of imported malaria which was misdiagnosed with flu from Northern Iran in order to notify our colleagues and authorities regarding the presence of this life-threatening disease and also the probability of misdiagnosis.

2. Case report

Our patient, a 27-year-old female housewife and resident of Chalus, Mazandaran Province, north of Iran in May 2013 had complaints of recurrent fever and shivering. And also she experienced intermittently a recovery feeling after every 2 d for three month. She pointed out that she has already visited by two physicians since three months ago and was diagnosed and treated with flu protocol. Although she felt a relatively recovery feeling just during receiving treatment due to incorrect diagnosis and treatment failure, symptoms returned and remained again. Eventually she was admitted to Taleghani hospital in Chalus.

On examination, she appeared febrile, pale and icteric. Besides, the patient suffered from headache, shaking chills, malaise, weakness, anemia, and joint pain. Overall, she was in critical condition and unconsciousness state. In addition, her blood pressure was 100/60 mmHg, pulse rate 95/min, respiration rate 20/min and body temperature 39 °C. Obviously all above mentioned symptoms pushed her to meet clinic at the time of submission in the hospital. Her history revealed that she had no transfusion, infection to flu at first admission to hospital and in the second hospital visit she was diagnose d with flu. Anopheles maculipennis, respectively[9]. Mazandaran annually attracts a great number of tourists, immigrants and refugees owing to its high potential for holidays, job-seeking and financial activities. Indeed these may have an effect on parasite populations and cause the re-introduction of malaria in this province. Recently, the majority of malaria cases in Mazandaran Province were classified as imported malaria and our report is in agreement with this fact.

It goes without saying that while all major agents including vector, proper environmental condition and imported malaria case for transmission of malaria exist in Mazandaran Province. Its prevention and control play a significant role[9]. It is worthy to mention that in a similar misdiagnosis case which has been reported by our team in Mazandaran Province in 2013, the patient was being misdiagnosed with flu at first admission to hospital and in the second hospital admission she was diagnosed properly and this delay in diagnosis and treatment put her in serious and critical condition. In the clinical settings, patients who undergo misdiagnosed will receive unnecessary medication and our case was under—diagnosed and treated as flu[10].

Malaria symptoms and signs usually mimic common flu, with an infected person suffering fever, headache, and vomiting usually within 10 to 15 d after exposure to Anopheles mosquito. Of course, malaria initial clinical manifestations can resemble other conditions such as gastroenteritis, septicemia and viral diseases[11,12]. It is important to bear in mind that incorrect diagnosis increases the expense of treatment and the probability of parasite drug—resistance emergence and development.

In conclusion, the authors deduce that firstly, every case of malaria infection should be taken serious in Mazandaran Province which has a history of hyper endemic area and re-emerges malaria and either we lose or incorrectly diagnose we will give the parasite the opportunity to spread, develop
and establish itself in this proper area\textsuperscript{13}. And the next point to be addressed is that this case is the first malaria case in 2013 in Mazandaran Province.

Conflict of interest statement
We declare that we have no conflict of interest.

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