case report

Autochthonous Vivax Malaria From Kashmir Valley, A Nonendemic Zone For Malaria.

Mohammad Hussain Mir, .Waseem Raja Dar, Fayaz Ahmad Sofi, Farhana Siraj Bagdadi

Abstract:

In non-endemic areas, malaria is rare and locally acquired infections are exceptional events. The diagnosis is therefore likely to be delayed or missed in patients without a relevant travel history. We report a case of Vivax malaria in a native Kashmiri woman, who had never been to a malaria endemic area. A review of literature was conducted regarding possible routes of transmission and their possibilityassessed.

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Introduction

Malaria is endemic in 97 countries and it is the most prevalent vector transmitted disease worldwide. It is a protozoan disease transmitted by the bite of anopheles mosquito[1] Plasmodium Vivax is endemic in Indian subcontinent but uncommon in Kashmir valley. In absence of a travel history, rare cases do occur in people working or residing near airports, what is known as airport malaria.

Case Report

A 35 year-old female from a remote village of Kashmir valley presented to Internal Medicine Department of our hospital with complaints of intermittent fever (maximum 102^{o} F), chills, low back pain and generalized weakness of about 2 weeks duration. She had taken multiple antibiotics and antipyretics over these two weeks but fever persisted. Eight years back, she had taken anti-tubercular treatment for smear negative pulmonary Kochs and was cured. She had exposure to domestic cattle at home. She had never received blood transfusion nor had history of intravenous drug abuse. She had never travelled outside Kashmir in her lifetime. On examination she was pale, febrile (101^{O} F) with tachycardia (110 beats/min.). She had splenomegaly of 4cm below left costal margin. Her neurological examination was normal. Her hemogram showed pancytopenia with Hb 8.6g/dl, TLC 3.02/mm^{3}, N53, L37, M6, E3 and platelet count of 75000/mm^{3}. Blood cultures, urine routine and cultures, echocardiography, ANA, HIV, tuberculosis profile, Brucella and typhoid workup were normal. Peripheral blood film examination revealed Plasmodium Vivax **(Fig 1)**.

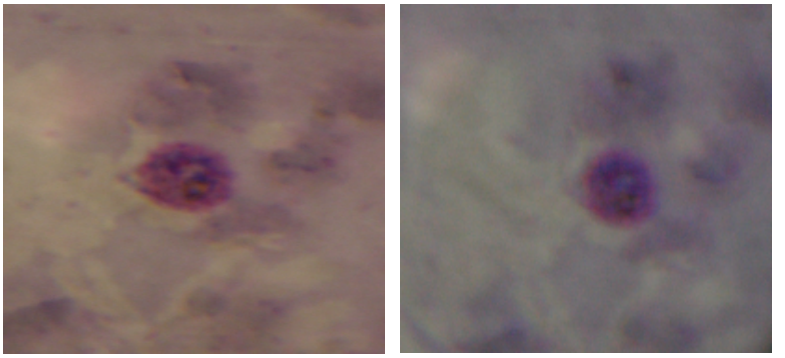

Fig 1: Gametocytes of Plasmodium Vivax.

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Key words:
Autochthonous, Vivax Malaria, Baggage malaria.

Since malaria is uncommon in Kashmir, and patient had not travelled outside valley, the diagnosis of malaria was a surprise. Rapid antigen test for malaria also came positive. She was put on chloroquine standard oral treatment with 10mg/Kg at zero hours and then 5mg/Kg at 12, 24 and 36 hours. Within two days, she became afebrile and her general condition improved markedly. Blood cell counts normalized.

Within two days, she became afebrile and her general condition improved markedly. Blood cell counts normalized. After completion of antimalarial treatment, a repeat PBF for MP was negative twice. Her G6PD levels were normal and she was put on radical treatment with oral primaquine 30 mg daily for two weeks.

Discussion

Malaria is a protozoan disease transmitted by the bite of infected Anopheles mosquito. It occurs in most of the tropical regions of the world and may occur in epidemic proportions in certain regions such as Northern India. The climate of the Kashmir valley is, however, unfavorable for Anopheles[2].The occurrence of malaria in non-endemic areas is rare and transmission of malaria in non-endemic area is an extremely unusual event, but is possible under certain conditions. The diagnosis is therefore likely to be missed or delayed in patients without a relevant travel history. In patients without a history of travel to malaria endemic areas, some rare cases of malaria have been reported as transfusion malaria, nosocomial malaria, and airport or port-malaria[3,4]. In airport malaria, the mosquito can be dispersed as far as seven kilometers under favorable conditions or may get transported in baggage or in a motor vehicle after disembarking from the aeroplane for tens of kilometers, and at such distances from the airport, there may be little suspicion that a patients illness is caused by malaria. Many new descriptive terms, based on the various modes of passive transport of infected mosquitoes, have been coined such as container, luggage, baggage, suitcase and mini-bus malaria. Our patient had never traveled to a malaria endemic area, had never received any blood products, nor had been injured by needle sticks. She was living in a remote village of Kashmir valley more than 100kms away from Srinagar international airport. The valley of Kashmir located in the Himalayan region has remained a conflict zone for more than two decades now. There is presence of more than six lakh security forces who come from different states of India to Kashmir by road and air. Most of their camps are located in the vicinity of villages and towns. The village in which our patient resides is home to two transitory camps of security forces. Because of the frequent travel by road and air to different states of India, these security forces personnel carry lot of luggage and baggage with them. Although no entomological study was carried out, we strongly suspected that our patient might have been infected by an Anopheles mosquito carried in the luggage of security forces. We hypothesize that the infective mosquito vector was brought in the luggage of any of the armymen travelling from a malaria-endemic part of India and that the mosquito bit the patient as the transitory camp was close by to her home.[5] Gallien et al reported a case of autochthonous falciparum malaria in a patient in Paris, France, in February 2013 who reported no recent travel to malaria-endemic countries and lived far off from the airport. However a month before hospitalization, he had shared his hostel room for two days with a friend who had just arrived from a malaria-endemic country in West Africa and had opened his luggage there.

Conclusion:

Population movements and the changing scenario of globalization place people at risk of getting malaria in non endemic areas of the world. Thus malaria should be kept in the differential diagnosis of any case of pyrexia of unknown origin, otherwise diagnosis is going to be delayed or missed.

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