



Coinfection of Malaria and Filariasis: A Rare Entity

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Microfilaria & Malaria are parasites that infect humans through common mosquito vectors which can be detected by examination of peripheral blood smear. Many times the finding of microfilaria is incidental but its early diagnosis helps in preventing the prognosis of the disease. Here we have reported few interesting cases of coinfection of Malaria and Filariasis in our center. This study provides information regarding management of patients with concomitant malaria and filariasis

Keywords: Malaria; filariasis; coinfection.

1. INTRODUCTION

Microfilaria is the larval stage of certain parasitic nematodes circulating in the blood of Humans, whose development occurs in the body of the insects. Malaria is a mosquito-borne infectious disease affecting humans and other animals

caused by parasitic protozoans belonging to the Plasmodium type. In India, various species of mosquito transmit three species of Plasmodium, namely – Plasmodium falciparum, Plasmodium vivax, and Plasmodium malariae. Anopheles culicifacies and stephensi has been widely distributed and is the principal vector of malaria.

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Culex quinquefasciatus is the mainly a vector for bancroftian filariasis. Though vectors of both the diseases are different, they can be transmitted by a number of common vectors, and hence both the diseases can be co-endemic in few areas of the tropics.

2. MATERIAL AND METHODS

The present study is the series of cases which has been collected retrospectively over the period of three years from 2017-2020 in tertiary care center.

3. CASE PRESENTATIONS

The following cases highlights the concomitant parasitism which is a rarity in India.

Case 1: A 28-year-old male with no Premorbidities, was admitted with fever chills and vomiting from past one day. Examination showed mild Splenomegaly and mildly enlarged inguinal lymph nodes. Hematology Reports revealed that his Platelet count of 29000/ μ l was Low with 50% Neutrophil Left Shift (+). Biochemistry report revealed Hyperbilirubinemia with total bilirubin 2.7mg/dl & bilirubin 1.2mg/dl. Lab reports revealed 4+ ring forms *Plasmodium falciparum* & *Microfilaria* by QBC in blood using fluorescence microscopy. He was treated with IV Artesunate & Doxycycline. Repeat Malarial Parasite-QBC was found to be negative. He was treated with Primaquine stat dose. As his blood reports showed the presence of *Microfilaria* he was treated with Diethyl carbamazine .full word not abriviation) He was discharged with the advice of tablet T. Banocide.

Case 2: A 30-year-old male patient was presented with the complaints of moderate & continuous fever from 4 days accompanied with rigor & chills with history of body pain, burning micturition, headache & giddiness, Vomiting. There were Rashes over trunk & Arms. Hematology Reports revealed that his Platelet count of 89000/ μ l was Low with 74% Neutrophil mild Left Shift (+). QBC report showed the presence of 4+ schizonts of *Plasmodium vivax* by Microscopy & *Microfilaria* was seen in the wet mount of blood. He was treated with the advice of Tablets T. Diethyl carbamazine T. Doxycycline, T. Risochoen, T. Malarid after Chloroquine therapy.

Case 3: A 31-year-old Male who was a known Alcoholic came with complaints of Jaundice since

15 days and 1 seizure episode. He complained of yellow discoloration of eyes since 15 days, vomiting episodes, 1 Episode of GTCS Examination showed patient to be in Post-Ictal Phase with bilateral plantar extensor. CT was done showed a ring enhancing lesion raised a query of Tuberculoma. Hematology Reports revealed that his platelet count of 606000/ μ l was high with 50.1% neutrophil mild left shift (+) & 36.2% lymphocytes with the presence of atypical & reactive forms. Biochemistry report revealed Hyperbilirubinemia with total bilirubin 2.2mg/dl & bilirubin 1.2mg/dl. Lab reports revealed 2+ ring forms schizonts of *Plasmodium vivax* by QBC in blood using Fluorescence Microscope & *Microfilaria* was seen in the wet mount of blood. He was started on ATT & falcigo. Anti ICT measures were taken & was started on Antiepileptic. Patient Improved & without further intervention as per patients wish discharged with the advice of tablets T. Rezartin Forte, T. Eptoin, T. Pantadoc, T. Primaquine & DEC.

4. DISCUSSION

Malaria and filariasis are endemic in South Asia and represents major public health problem. Concurrent infection of dengue with malaria and malaria with filarial & some cases of malaria, filarial & Dengue have been reported in past. In the present cases, patients harboring both parasites *Plasmodium* and *W.bancrofti* had no clinical symptoms of filariasis [1-2] as seen in our cases too, where the patients presented with either no symptoms or mild symptoms and signs of inguinal lymphadenopathy and these cases were found on routine screening of Peripheral blood smear. In one study, conducted in Orissa, Filariasis was less prevalent in lower age-groups. Malaria incidence in people below thirty years was higher compared to older people, on the contrary, microfilariae incidence was more in people above 15 years or more age. In our case series, all our patients were above 15 years of age [2]. The co infection of malarial and filarial infection raised an important issue relating to the early diagnosis of filariasis, as the symptom of filariasis do not rapidly appear within 7-8 days after infection, as is the case in malaria, and would not normally be diagnosis prior to an onset of symptoms [3-4].

5. CONCLUSION

Concomitant malarial and filarial infections should not be overlooked in patients residing especially in endemic areas, including the Indian

subcontinent. Microfilariae is mostly an incidental finding in the absence of the clinical features of Filariasis. In the endemic areas, all the blood smear for malarial finding must be screened for microfilariae as well to detect any asymptomatic carriers as both parasites affect the same human host and share common mosquito vectors [5-6]. Parasitic coinfections should always be looked for by careful examination of the peripheral smear. In cases of presence of unusual forms of malarial and filarial forms, it is essential to highlight in the report so that right therapy should be initiated in patient at the right time [7-10].

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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