Original Research Paper

Volume - 10 | Issue - 11 | November - 2020 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

General Medicine

UNCOMMON PRESENTATION OF A COMMON DISEASE AS PUO

Dr.Y.V.S.Prabhakar MD,Professor MD Department of General Medicine, NRI General Hospital ,Guntur.

Dr.Ponnaganti Vasundhara* Final year Post Graduate , Department of General Medicine, NRI General Hospital ,Guntur. *Corresponding Author

ABSTRACT We report a case of pyrexia of unknown origin in a 35 yr old male . He presented to us with fever since 2 months which was associated with chills and rigor . He is non alcoholic , non smoker . Mild Hepatosplenomegaly was found on initial physical examination. Before he was referred to our hospital, he was investigated in outside hospital . The serial Rapid Diagnostic Test and microscopic peripheral blood smears for plasmodium were negative . He was treated symptomatically . In view of non subsiding fever patient was referred to higher centre . He presented to our institute for further evaluation . His laboratory findings found pancytopenia. Bone marrow aspiration(BMA) was done. BMA showed Gametocytes of P. falciparum. The presence of gametocytes of P.Falciparum in the bone marrow ,not in peripheral smear and presenting as PUO is rare .

KEYWORDS : P.Falciparum, bone marrow , PUO

INTRODUCTION :

Pyrexia of unknown origin (PUO) is a common problem in medical practice . Infection is most common cause of PUO in developing countries . Other causes are lymphoma and malignancy etc .Here we report a case of uncommon presentation of a common disease as PUO.

CASE REPORT :

A 35yr old male presented to us with chief complaints of fever since 2 months ; intermittent type not associated with rash, abdominal pain, burning micturition ,headache, cough . H/o weight loss + . Easy fatigability since 3 weeks . C/O exertional breathlessness associated with palpitations and swelling of lower limbs since 2 weeks . Evaluated in outside hospital due to non subsidement of fever and worsening symptoms he was referred to us . Patient is non smoker non alcoholic .

On general examination vitals pulse tachycardia normal rhythm temperature 101 F pallor present ,no lymphadenopathy , no icterus . Systemic examination revealed mild hepatosplenomegaly .All other systems were normal .

INVESTIGATIONS :

CBC : Hb 6.4gm/dl / TC 2000 / platelet 65000
PS : microcytic normochromic anemia, leukopenia ,thrombocytopenia - Pancytopenia
No abnormal cells and negative for hemoparasites
LFT / RFT : NORMAL
USG ABDOMEN : MILD HEPATOSPLENOMEGALY
CXR : NORMAL
BLOOD AND URINE C/S : NO ORGANISM ISOLATED
VIRALS : NR
SMEAR FOR MP – NEGATIVE ; DENGUE SEROLOGY – NEGATIVE
BONE MARROW ASPIRATION :

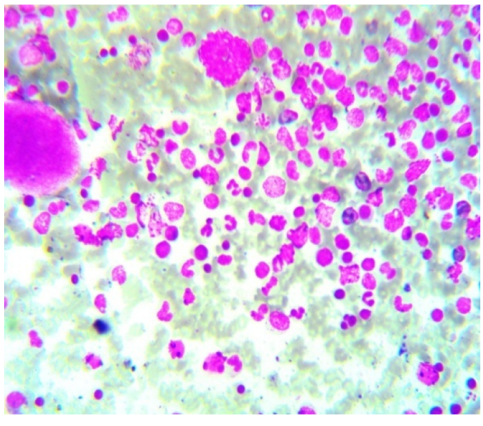
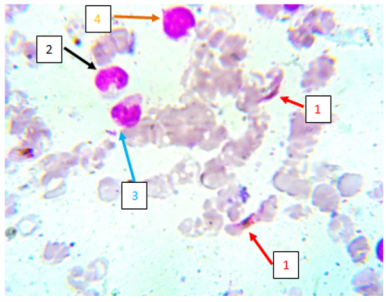


FIG 1 : BMA



1. Banana shaped Gametocyte of P.falciparum
2. Granulocyte
3. Erythroid precursor
4. Megakaryocyte

FIG 2 : BMA LEISHMAN STAIN - 1000X

TREATMENT :

He was treated with Artemisinin based combination therapy and primaquine 45mg. After which patient improved clinically in 2 weeks .

DISCUSSION :

Malaria is one of the most burden diseases among all infectious diseases. It transmitted by the bites of infected female Anopheles mosquitoes[4].

In the year 2015, about 212 million cases of malaria occurred worldwide. Most of the cases in 2015 were in the WHO African Region (90%), followed by the WHO South-East Asia Region (7%) and the WHO Eastern Mediterranean Region (2%). Progression to severe and fatal disease is significant but not entirely confined to Plasmodium falciparum infections. High mortality always associated with Severe malaria. From a clinical perspective, there is a continuum from asymptomatic malaria to uncomplicated illness through to severe and lethal malaria.[5]

First notable diagnostic definition of FUO was given by R. B. Petersdorf and Beesonas in 1961 and has been followed for decades.[6] Though due to easy and wide availability of laboratory facilities, common causes of fever can be easily ruled out and fever without a source can be labelled as fever of unknown origin by at least eight days history of fever.[7]

Recently FUO has been defined as fever of 38.0°C (100.4°F) at least twice a week for more than three weeks, with no conclusive history and examination findings, and one week of inpatient investigation with no definitive cause.[7] Only in about one third of total cases of FUO, cause could be pointed out and managed accordingly.[8] But due to recent advances in diagnostic modalities, in about 90% of cases cause can be identified.[7]

Many studies from developing countries show infection (36% to 78%) as the commonest cause of FUO, followed by other causes such as malignancy (2% to 12%), collagen-vascular diseases (2% to 21%),

noninfectious causes (2% to 50%), and unknown (12% to 29%).[7,9]

Our case presented with signs and symptoms mimicking malignancy. The patient had a prolonged fever, hepatosplenomegaly, pancytopenia, fatiguing easily, and no other signs and symptoms were found. The patient underwent extensive work-up to exclude infectious diseases including malaria.

The patient then underwent a baseline malignancy work-up. Surprisingly P. Falciparum gametocyte was found in the bone marrow .

Study by Aguilar et al. [1] had a higher prevalence of sexual and P. falciparum infection detected by microscopy in the bone marrow, as well as in peripheral blood, compared with non-severely anemic . In P. falciparum-infected anemic patient , immature gametocytes are more prevalent and abundant in bone marrow than in peripheral blood .

Cuartas et al.[2] presented two similar cases in the Southern Medical Journal in 1972, although repeated examination of peripheral blood smears failed to reveal parasites, bone marrow aspiration confirmed the presence of P. falciparum. This report suggests that bone marrow aspiration is of value for the diagnosis of malaria

In a study by Mirdha BR and his colleagues[3] they examined bone marrow for the diagnosis of malaria in patients with a persistent, prolonged fever. All marrow examinations of patients were examined microscopically and resulted in a diagnosis of malaria in 6.6% of the total patients studied.

CONCLUSION :

PUO remains a clinical challenge despite greater understanding of the diseases responsible and increased access to diagnostic tests. In India, infectious disease still remains the most important cause of PUO.

New technologies,such as FDG-PET ,show promise to aid diagnosis;however detailed history and examination remain the most important steps in achieving a diagnosis for the patient and guiding further investigations.

The demonstration of Plasmodium in peripheral blood smears is diagnostic of malaria, however, when repeated thin and thick smears fail to demonstrate Plasmodium, other diagnostic test may become necessary.

CONFLICTS OF INTEREST:

There are no conflicts of interest.

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