

Combination of Malaria and Visceral Leishmaniasis in a Child of Two Years.

Pages with reference to book, From 138 To 140

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Abstract

A case of combined infection of Plasmodium falciparum and leishmania donovani in a child of two years is presented. It occurred in a small village Bani-Masawa (Yemen) near Saudi Arabian border from Jizan side, indicating absence of cross immunity or interference between the two parasites. It also reveals that visceral leishmaniasis is present in that area and should be considered in the differential diagnosis of Pyrexia in the patients from the adjacent southern region (JPMA 34: 138, 1984).

Case Report

A two year old girl from a small village Bani-Masawa (Yemen) near Saudi Arabian border from Jizan side, was admitted in the Jeddah Maternity and Children Hospital with a 6 days history of fever with rigors. Blood taken on the day of admission, revealed plenty of ring forms of Plasmodium falciparum. Other hematological findings were of severe anemia and moderate leukocytosis with lymphocytic preponderance.

She was transferred to Al Mahjar Hospital, where peripheral blood film was examined and the diagnosis of Plasmodium falciparum was re-established. The patient was put on anti-malarial therapy (canioquin) to which she responded satisfactorily, but fever started rising again from the third day after therapy, to assume a cyclic pattern. This paradoxical response was considered to be either due to a falciparum strain resistant to drug used or some other etiology for Pyrexia.

The clinical and laboratory data was re-examined and further investigations were carried out to arrive at a conclusion to that effect.

Clinically the patient was severely anemic for which she was transfused again. Lymph nodes were enlarged, spleen was palpable three fingers and liver two fingers. There were no complaints pertaining to other systems and no findings in abdomen and chest, XRay chest was also clear. There were no urinary complaints and routine examination of urine gave no evidence of urinary tract infection. Widal test was negative serum bilirubin was within normal range.

Repeated blood films for malarial parasites proved to be negative except on one occasion when upon adrenaline provocation, deformed ring forms were found in very small numbers in a thick film from centrifuged RBC concentrate (plasma thrown out). Concomitant hematological findings revealed improvement of hemoglobin level following blood transfusion, leukocytosis was variable with preponderance of lymphocytes.

Bone marrow examination of the patient (Chatterjee, 1976; Mansor Behr and Wilcox, 1968) helped to clinch the diagnosis. The marrow was normocellular but full of leishmania donovani bodies, both intracellularly in the large mononuclears and extracellularly. Furthermore, aldehyde test (Chatterjee, 1976) on the serum was positive. The patient improved in a weeks time after pentostam therapy, but the parents took her home against medical advice.

The relevant laboratory data before and after anti-malarial therapy is presented in table I & II respectively.

Table - 1

Laboratory Data Prior to Anti-Malarial Therapy .

Hematological/Parasitological findings

Hb	4.5 g/dl/
RBC	2.62 million/cmm.
WBC	8900/cmm.
Hct	15.0 %
MCV	57 cu.
MCHC	29.8 %
DLC	Polymorphs 19%
	Lymphocytes 75%
	Monocytes 4%
	Eosinophils 1%

Plasmodium falcifarum rings in large numbers.

(dated 3.5. 1403 at our laboratory)

Hb 55%

Plasmodium falcifarum ring +

(dated 4.5. 1403 at Mahjar Hospital)

Results of other investigations

Urine Examination:

Albumin and Sugar: Nil

Few Leukocytes/HPF

Table– II
Laboratory Data After Anti-Malarial Therapy.

Hematological/Parasitological findings

Hb	12.1 g/dl
RBC	4.6 million/cmm
WBC	6100/cmm.
Hct	36%
MCV	77
MCH	25.8 %
MCHC	33.4 %

Differential

Polymorphonuclears	15%
Lymphocytes	80%
Monocytes	4%
Eosinophils	1%

Repeated blood films for malaria: Negative, except on one occasion following adrenaline provocation, deformed malaria parasite tings seen after concentration in very small number.

Bone Marrow: Normocellular, full of Leishmania donovani bodies.

Serum Aldehyde test (2) : Positive

Results of other investigations

Widal Test: Negative

Serum bilirubin : 1.4 mg/dl

Discussion

Plasmodium falciparum infection had commonly been seen by us in patients from southern region, as

well as cases of cutaneous Leishmaniasis by *leishmania tropica*. The area is known to be endemic for both.

Visceral leishmaniasis is known to be endemic in Bangladesh, Assam province of India and Burma (Cecil, 1975) the nomenclature of the disease Kala-azar is of local origin there (Cruickshank et al., 1973).

The combination of visceral leishmaniasis and malaria has been reported in China (Manson Bahr and Wilcox, 1968) that indicates that both parasites can co-exist and that there is no cross immunity as such. We have for the first time come across a patient with coincident combination of visceral leishmaniasis and *Plasmodium falciparum* infection. This was also first case of visceral leishmaniasis from an area known to be endemic only for cutaneous leishmaniasis. Our finding confirms the possibility of coexistence of malaria and visceral leishmaniasis and also point towards taking into consideration the possibility of existence of visceral leishmaniasis in areas known to be endemic only for cutaneous leishmaniasis.

The condition having not been met with frequently from such areas could be due to the lesser incidence of the infection or non application of the proper diagnostic approach. It is therefore suggested that in cases of pyrexia from areas known to be endemic for cutaneous leishmaniasis and malaria, the possibility of visceral leishmaniasis should be considered in the differential diagnosis and proper diagnostic procedures adopted to confirm the diagnosis.

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