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Disseminated Malaria- Case Report

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Abstract

Malaria is an endemic disease in the costal belt of Karnataka. Sudden death due to malaria is rare, but reported. Here we present a case of sudden death in a 50 year old male who was found dead in a room. Crime scene investigation, autopsy report, histopathological examination and chemical analysis confirmed the cause of death as disseminated malaria.

Key words: Malaria; Disseminated malaria; Sudden death; Coastal Karnataka.

Introduction

The term malaria was derived from the Italian word mala "bad" and aria "air" which was used by the Italians to describe the cause of intermittent fevers associated with exposure to marsh air or miasma. The word was introduced to English by Horace Walpole, who wrote in 1740 about a "horrid thing called mal'aria that comes to Rome every summer and kills one" (1). Now malaria has become the major health problem in Asia, Africa, Central and South America affecting more than 1 billion people world wide and causing 1-3 million deaths per year with prevalence in 103 countries. About 40% of the world's population lives in areas where malaria is common (2). There is one malarial death every 12 seconds somewhere in the world and still remains a heavy burden to tropical countries like India. In the 1950s, WHO launched an ambitious plan to control or eradicate malaria with initial successes, the plan again foundered due to resistance of drugs and insecticides. Danger of malaria has worsened, and the disease is now a major global problem.

Here we present a case of sudden death in an apparently healthy middle aged male. Detailed autopsy and histopathological examination confirmed it to be a case of disseminated malaria.

Case report

An unknown male aged about 50 years was found dead in hotel room. Room was locked from inside and crime scene was undisturbed. On external examination dead body was cold, stiff and lividity was present at the back and fixed. No ante mortem external injuries were present on the

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body. Internal examination revealed congested and oedematous brain, bilaterally congested lungs, soft and enlarged spleen (wt.230gms) and pale kidneys. Heart showed subendocardial hemorrhage on anterior surface of left ventricle with patent coronaries. Histopathological examination of lung, heart, kidney and liver showed parasitized RBC's and malarial pigment (Fig.1-4). Chemical examination did not revealed any positive findings. With above finding cause of death was opined as multiorgan failure due to disseminated malaria.

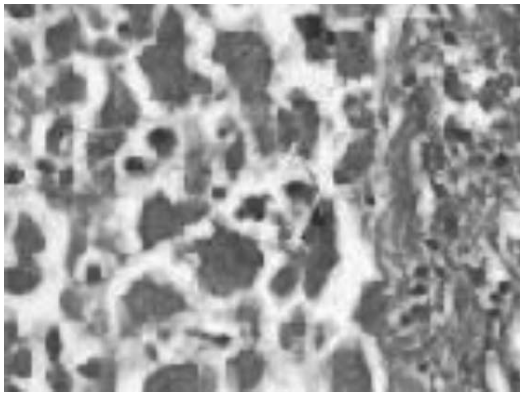

Fig. 1

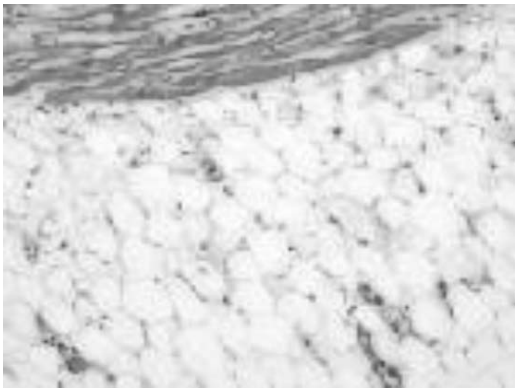

Fig. 2

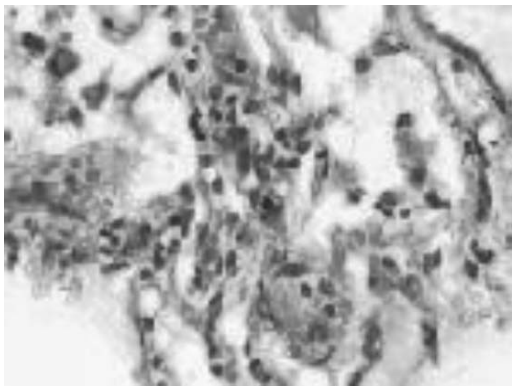

Fig. 3

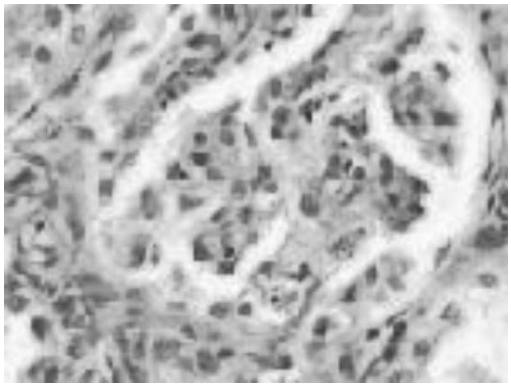

Fig. 4

Discussion

Malaria is caused by four species of plasmodium transmitted by the female anopheles mosquito, about 1% of the patient with Plasmodium falciparum infection develops severe manifestations resulting in multiorgan failure. In year 2006, total numbers of cases of malaria in India were 1.04 million causing 890 deaths. Out of 62864 cases reported from Karnataka state, Mangalore alone accounted for 15664 (24%) cases, of which, 4903 (29%) were caused by plasmodium falciparum leading to death in 11 cases (1). Parasitisation is greatest in descending order in the following organs: brain, heart, liver, lung, kidney and blood.

According to WHO to call severe malaria one or more of the following criteria should be present with the presence of asexual parasitaemia. They are:1) Unarousable coma 2) Severe anaemia 3) Renal failure. 4) ARDS 5) Hypoglycaemia 6) Hypotension / Shock 7) Bleeding / Disseminated intravascular coagulation (DIC) 8) Convulsion and 9) Acidosis/ acidaemia. (3) In malaria ruptured erythrocytes release haemoglobin, erythrocyte debris and malarial pigment, then phagocytosis leads to reticuloendothelial hyperplasia and hepato-splenomegaly. In kidney released haemoglobin produces hemoglobinuric nephritis (Black water fever), which may be fatal. Histologically, parasitized erythrocytes obstruct the capillaries of the brain, heart, kidney and other organs causing fibrin thrombi leading to micro infarcts. These results in encephalopathy, congestive heart failure, pulmonary oedema and frequently death (4). So, plasmodium falciparum, if not treated quickly can lead to severe malaria, which carries a grave prognosis and cerebral malaria has a mortality rate of 25%, even with the best treatment. Although, advanced diagnostic methods and treatment modalities have gone a long way in reducing the incidence of malaria related deaths, still isolated cases of malaria related deaths are reported.

In present case victim was an apparently healthy individual. His sudden death in a hotel room aroused suspicion of foul play. Undisturbed scene of occurrence, absence of external injuries, negative chemical analysis report along with positive histopathological diagnosis helped us to opine the cause of death as disseminated malaria. Need of detailed autopsy coupled with necessary investigations in all cases of sudden death is stressed.

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