BABESIA MICROTI A RARE INFECTIVE CAUSE OF TRANSFUSION DEPENDENT ANAEMIA AND PROTEINURIA. EIGHT CASES SERIES REPORT SEEN OVER NINE YEARS FROM A BENIN CITY UNIVERSITY TEACHING HOSPITAL.

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ABSTRACT

Babesiosis (piroplasmosis) is transmitted to humans by the bite of ticks commonly found on the body of dogs and deers infected with Babesia microti (a protozoa). From the literature only about three hundred human cases had being reported, with all in adults.

A nine-year (2006 to 2015) report of eight cases (including a child) of Babesia microti infection presenting as transfusion dependent anaemia and proteinuria amidst other varied clinical presentation is presented to appraise laboratory and clinical physicians of such uncommonly reported condition in humans.

Combination of clindamycin and quinine aborted the transfusion dependent anaemia and proteinuria amidst other varied clinical presentation in less than twenty- four hours of therapy for all eight cases of Babesiosis.

In the absence of gametocytes, schizonts and brown – black malaria pigments and sometimes presence of characteristic 'maltese cross' in a thin blood film stained with Giemsa stain from patients with classical clinical presentation of Babesiosis resembling malaria; Babesiosis should be first on the list of differential diagnosis especially when there is a history of contact with animals like dogs which habour the ticks which carry Babesia microti which in these cases they all had contact with dogs as pets at home.

KEY WORDS: Bebesiosis, anaemia, proteinuria, maltese cross.

INTRODUCTION

Babesia species infects red blood cells and are widespread animal parasites that cause infectious jaundice in dogs and Texas cattle fever (red water fever).[1,2,3] Babesiosis, a tick borne infection, is caused in the United States by *Babesia microti.*[3] It is considered an emerging infectious disease of humans and is increasing in number – more than 300 cases has being reported most of them from Massachusetts with primary focus being Nantucket Island.[4]

The great majority of infections in immunologically intact individuals are asymptomatic, but in infected persons the illness develops 7 – 10 days after the tick bite and is characterized by malaise, anorexia, nausea, fatigue, fever, sweats, myalgia, arthralgia, and also it is found in HIV/AIDS patients. Babesiosis in these individuals may resemble falciparum malaria, with high fever, haemolytic anaemia, hemoglobinuria, jaundice, proteinuria and renal failure.[5] Infections are sometimes fatal. *Babesia* may be mistaken in humans for *P. falciparum* in its ring form in red blood cells, though its 'Maltese cross' form in the red cell without pigments or gametocytes is diagnostic.[3]

CASE PRESENTATIONS

These are case reports of eight patients with ages from 3years to 65years with mean age 31 ± 6years, 3 males and 5 females ratio 1: 1.7, presenting commonly among them with fever, severe anaemia with transfusions and proteinuria, only one; a female 26 years had additional clinical features of myalgia. All thin blood films stained with Giemsa showed the characteristic 'Maltese cross', absence of pigments and no gametocytes. They all became stable clinically within 24hours of administration of a combination of clindamycin and Quinine drugs which was repeated for three cycles about 3 months apart.

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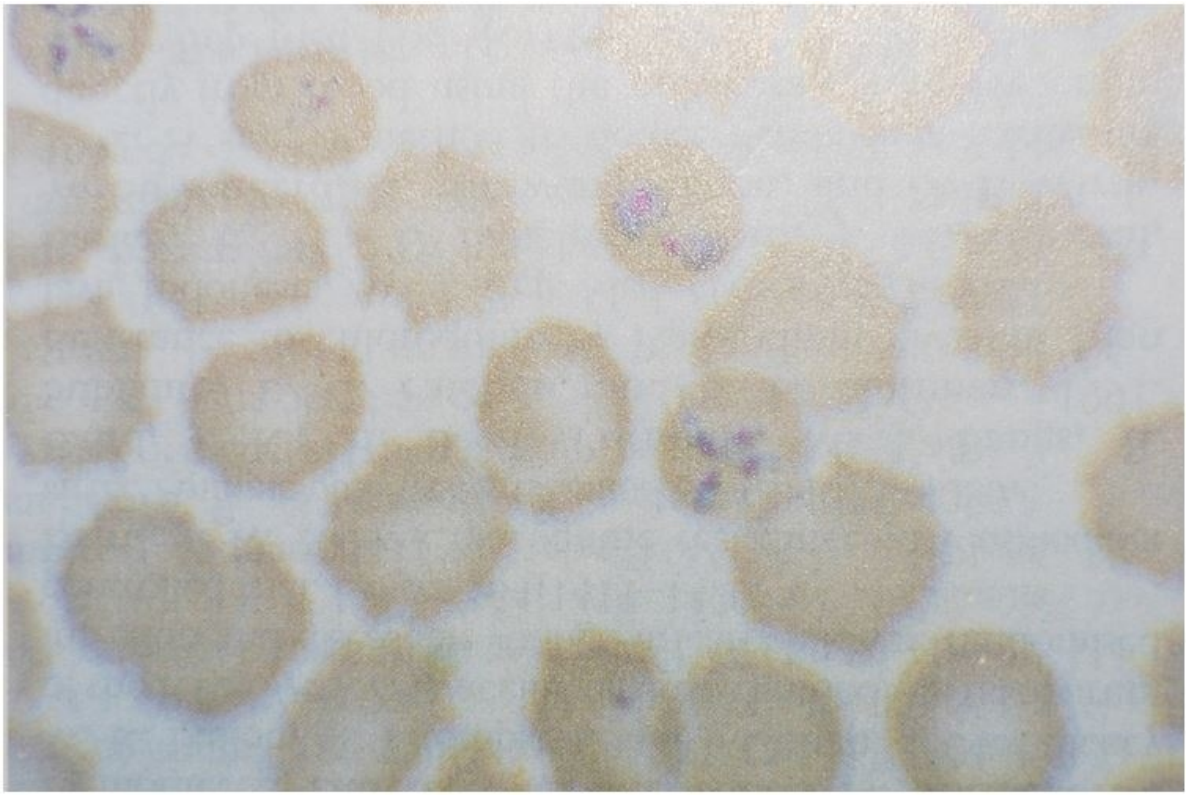
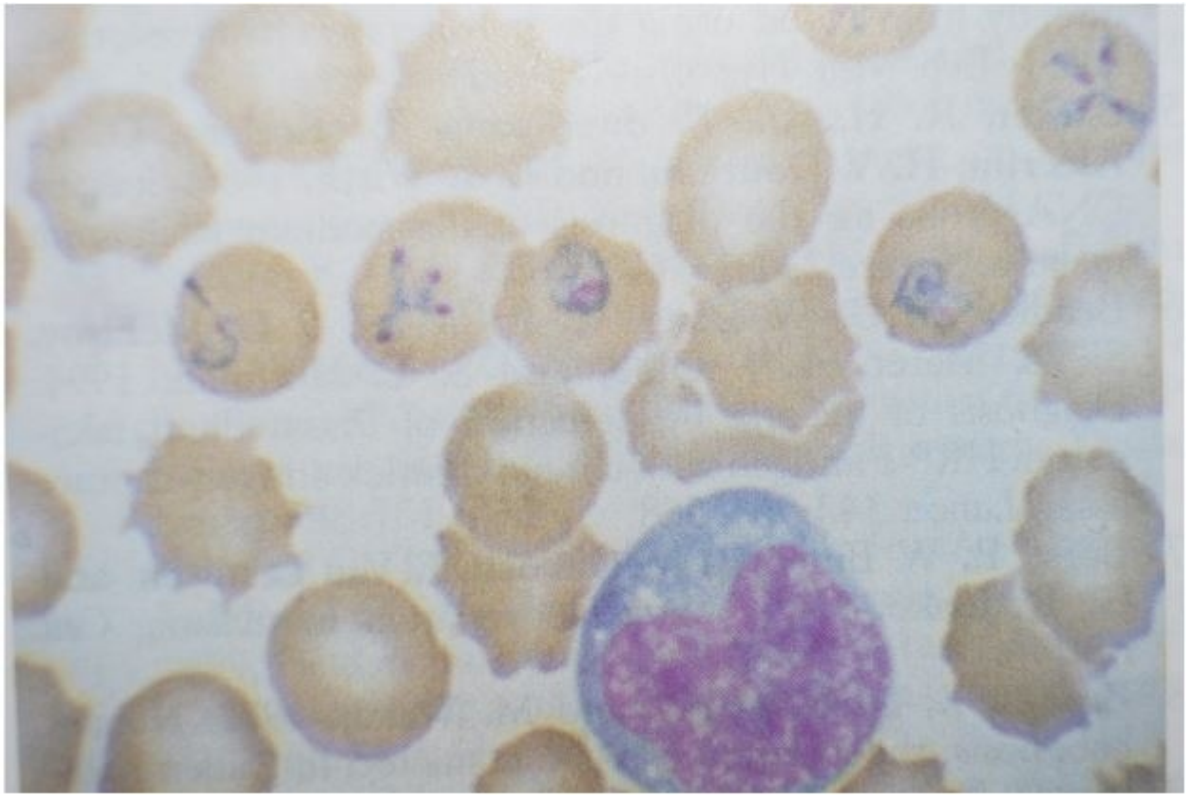


Standard slide of *Babesia microti* showing the typical tetrad appearance of the parasite (trophozoite stage) due to incomplete division of the organism during mitosis.



Slide from a patient (3 years old female with transfusion dependent anaemia).

DISCUSSION

Studies have showed about 300 cases of Babesiosis worldwide from literature all in adults, however from our 8 cases seen in 9 years (2006 – 2015) a 3 year old child was involved, all were HIV negative although other test for immunity status were not done due to lack of facilities like potency of the spleen using radionucleide studies. The absence of gametocytes and pigments in the blood smears of these patients were very characteristics unlike in malaria where there are present. All the adult patients here presented to the nephrologist first on discovery of proteinuria at the emergency department of the hospital who gave a consult to the Clinical Microbiologist due to the presence of fever.

The 3 year old female a twin presented to the paediatric haematologist on account of recurrent transfusion dependent anaemia with repeated exchange blood transfusions who gave a consult to the Clinical Microbiologist on account of fever.

Seven of these patients had dogs as pets at home with one a female a timber merchant who died about 15 days on admission from renal failure due to absence of doctors and other medical staff for dialysis support due to industrial action. The later must have got it from the forest; from deer ticks.

CONCLUSION

The diagnosis and management of human Babesiosis should be suspected in those with malaria-like clinical features that do not respond to antimalarials; with a specific request to the laboratory to look for the characteristic presentation of this emerging organism in Giemsa stained blood smears which is also one of the stains used for malaria microscopic diagnosis, especially in those patients associated with ticks in animals like dogs and deers.

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