Summary

Babesiosis is an emerging, tick-transmitted, zoonotic disease caused by an intraerythrocytic parasite of the genus ***Babesia.***

The present study is carried out to detect babesiosis in cattle attending veterinary clinics and in farms, to focus on the zoonotic importance of the disease among humans in contact with diseased cattle and to search for the vector of the disease in those localities.

The present study was carried out on fifty five native breed cattle suspected to be infected with babesiosis, eighty human cases who were in contact with studied cattle and eighty engorged female ticks which were collected either from the studied cattle or the surrounding environment.

Full history taking and clinical examination were performed for every cattle or human case understudy. Thin blood film smears from each cattle were prepared for ***Babesia*** detection and blood samples were collected from each cattle from jugular vein in a centrifuge tube, left for serum separation to perform indirect flurescent antibody test (IFAT) for IgG.

For human cases, thin blood film smears from each human case were prepared for ***Babesia*** detection and two blood samples were collected from each case, the first sample collected on EDTA for complete blood picture examination (C.B.C.) and the second sample collected in a centrifuge tube, left for serum separation to perform indirect flurescent antibody test (IFAT) for IgG.

Ticks were collected from cattle by holding with entomological forceps and turning anticlockwise. Collected ticks were kept alive, in special tubes till identification and haemolymph smears preparation for ***Babesia*** parasite detection.

The clinical signs in infected cattle with ***B.bigemina*** , as recorded by the help of veterinary doctors, included fever (39-39.8 ^{o}C), anorexia, depression, weakness, rough hair coat, pale mucous membranes, haemoglobinuria, accelerated respiratory and heart rates and decreased body weight gain.

The examination of the 55 cattle showed that 36 cattle (65.5%) were positive for ***B.bigemina*** infection by Giemsa stained thin blood film examination and 38 cattle (69.1%) were positive for ***B.bigemina*** IgG by IFAT. Two cattle (3.6%) were positive by Giemsa stained thin blood film examination and negative for ***B.bigemina*** IgG by IFAT. Four cattle (7.3%) were positive by IFAT for IgG and negative for ***B.bigemina*** by Giemsa stained thin blood film examination. Thirty four cattle (61.8 %) were positive by both blood film examination and IFAT for IgG. The total number of ***Babesia bigemina*** infected animals was 40 cattle and the infection rate was 72.7 %.

The sensitivity of the IFAT (IgG) for the studied cattle was 89.5% and the specificity of this test was 88.2%.

The study on human group showed nine cases of human babesiosis. Three cases were symptomatic. Clinical manifestations recorded in infected human cases included fatigue, anorexia, malaise and headache.

The nine cases gave no past history of tick bite, splenectomy or blood transfusion.

Complete Blood Count done for studied human cases showed no significant difference between ***Babesia*** infected (**+ ve**) and noninfected (- ve) human cases as regards erythrogram, platelet and leucogram variables.

The examination of the 80 human cases showed that, 8 cases (10%) were positive for ***Babesia*** infection by Giemsa stained thin blood film examination and 4 cases (5%) were positive for ***B.bigemina*** (IgG) by IFAT. Five cases (6.3 %.) were positive by Giemsa stained thin blood film examination for ***Babesia*** infection and negative for ***B.bigemina*** (IgG) by IFAT. One case (1.3 %) was positive by IFAT for IgG and negative by Giemsa stained thin blood film examination. Three cases (3.8 %.) were positive by both blood film and IFAT for IgG. The total number of ***Babesia bigemina*** infected human cases was 9 cases and the infection rate was 11.25%.

The sensitivity of the IFAT (IgG) in human cases was 75% and the specificity of this test in human cases was 93.4%.

The relation between ***Babesia*** infection and age in the studied human cases showed that out of 80 examined human cases, 39 were in the age group 17-39 (< 40y), three of them (7.7 %) were infected and 41 cases were in the age group 40-65 (≥ 40y)), 6 of them (14.6 %) were infected.. The second group showed higher rate of infection (14.6 %) but no significant correlation between age and infection was found

The relation between ***Babesia*** infection and sex in the studied human cases showed that out of 80 examined human cases, 68 cases were males [7 cases of them (10.3%) were infected] and 12 were females [2cases of them (16.7%) were infected] but no significant correlation between sex and infection was found

The isolated ticks were ***Boophilus annulatus*** and 80% of the examined ticks showed kinetes of ***Babesia bigemina*** on the haemolymph smear examination