HS1235

The film was prepared from a frequent traveler between Hong Kong, New York and China. The 61-year gentleman felt fatigue and shortage of breath for two months and presented fever, chills and rigor on admission to a hospital for treatment. The complete blood count showed Hb 8.1 g/dL, RBC 2.70 x 10^{12}/L, Hct 0.235 L/L, MCV 87.1 fL, MCH 30.0 pg, WBC 12.2 x 10^{9}/L and Platelet 217 x 10^{9}/L.

The most prominent feature of the blood film is the presence of ring-formed trophozoites inside red cells (Figure 1). The morphology of parasites resembles very much to that of *Plasmodium falciparum* (see HS1215). They are fine in accolé forms. Red cells are multiply infected, but no enlargement (Figure 2). On closer examinations, parasites are pleomorphic and vary in shape and size (Figure 3).

Rapid diagnostic tests for malarial parasites namely, Bio-Rad OptiMAL and BinaxNow RDT, were performed. Both yielded negative readouts. With reference to the travelling history of the patient, Babesia infection is suspected despite the tetrad structure of merozoites, unique to Babesia, is not evident. Immunofluoresence assay of *Babesia microti* on infected erythrocytes demonstrated a positive reactivity with a titre being higher than 1 in 1,000. Polymerase chain reactions for genes specific to *Babesia microti* and four species of malarial parasites amplified genes derived from *Babesia microti* but no genes of *Plasmodium* species, confirming the infection of Babesia.

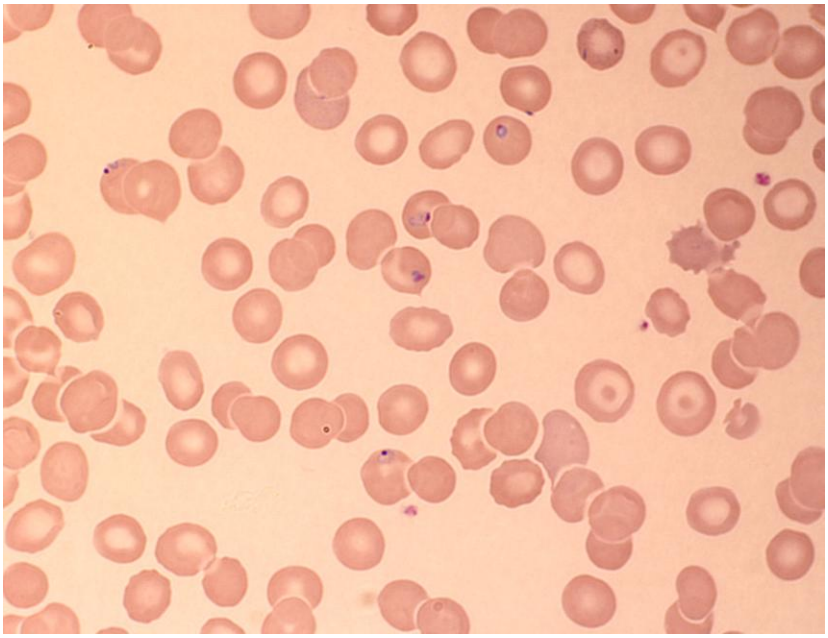

Figure 1. Red cells are infected with ring-formed trophozoites (1,000x magnification).

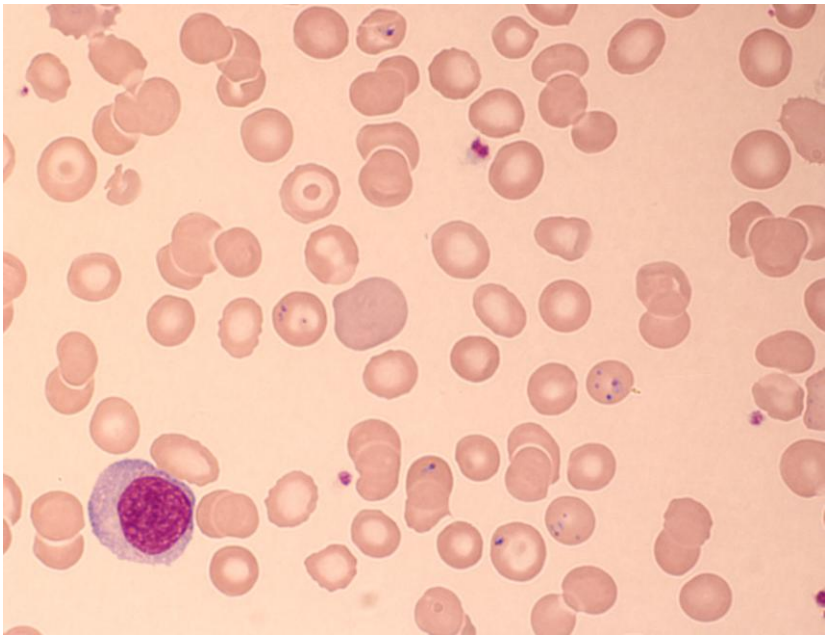

Figure 2. Red cells are multiply infected by trophozoites in accolé form (1,000x magnification).

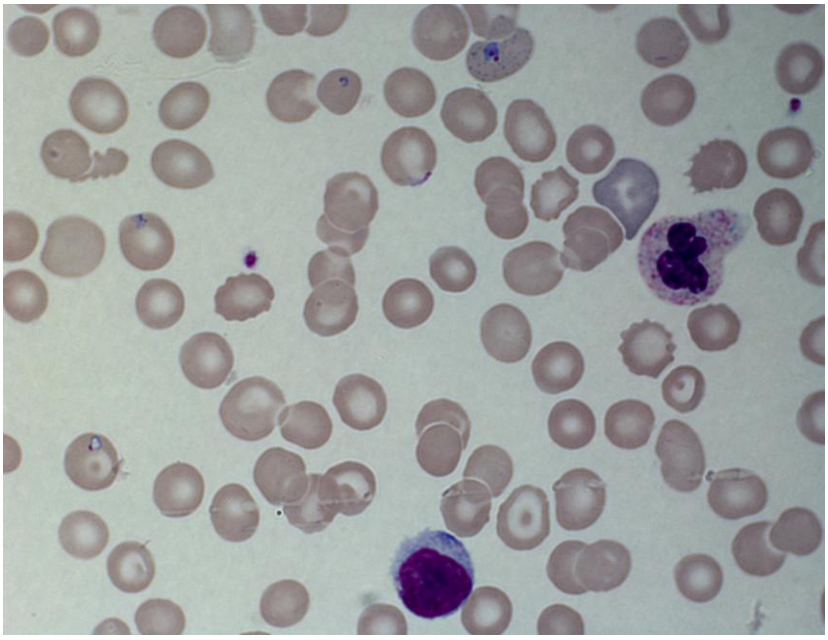

Figure 3. Pleomorphic trophozoites in various sizes (1,000x magnification).