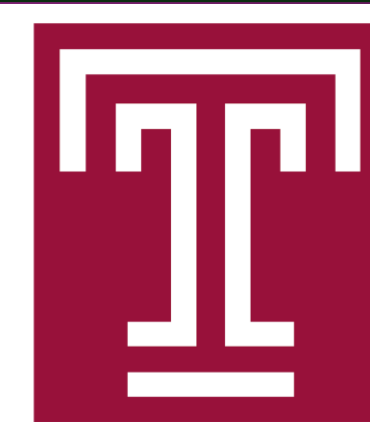




**WESTCHESTER  
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# "Ticked Off": The Evaluation and Imaging of Babesiosis in the Emergency Radiology Workplace

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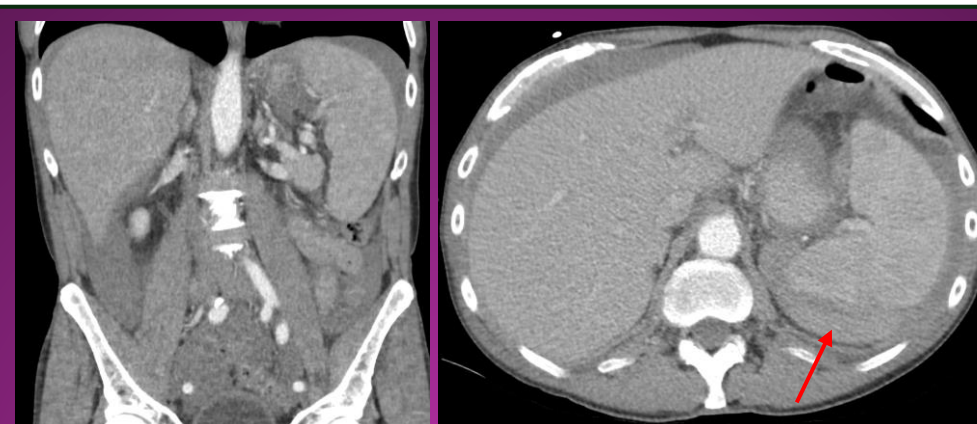


## Background

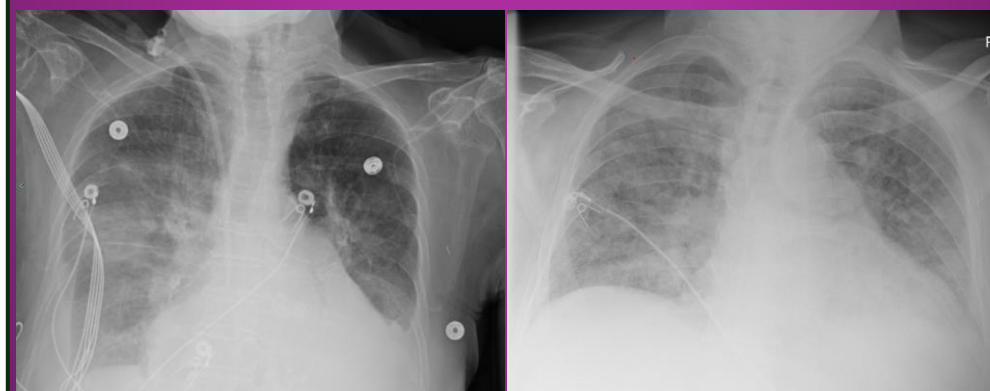
- Babesiosis is a tick-borne parasitic infection caused by various species of Babesia, with Babesia microti being the most common cause in the United States.
- Commonly found in the Northeast and Northern Midwest regions of the United States.
- Primarily affects red blood cells and can be transmitted to humans through the bite of infected ticks or through blood transfusions.
- Most infected individuals will be asymptomatic, but immunocompromised patients or those with chronic illnesses may present with life-threatening symptoms.
- Severe complications include hemolytic anemia (breakdown of red blood cells), disseminated intravascular coagulation (abnormal blood clotting), acute respiratory distress syndrome (ARDS), and organ failure can occur.

## Methods/Materials

- Diagnosis and management of severe cases rely on lab testing and radiologic studies.
- While radiographic findings are not specific for babesiosis, they can be observed in severe cases or when complications arise.



Coronal (left) and axial (right) contrast enhanced CT of the abdomen and pelvis demonstrates a perisplenic hematoma and splenomegaly in a patient with known Babesiosis infection, consistent with splenic rupture.



- Left Image: Portable AP radiograph of the chest demonstrates pulmonary edema and bilateral pleural effusions.
- Right Image: Portable AP radiograph of the chest demonstrates bilateral hazy airspace opacities. These opacities demonstrated rapid improvement, consistent with pulmonary edema.

## Results

- In severe cases or in immunocompromised individuals, chest radiographs may reveal abnormalities such as focal infiltrates, diffuse interstitial infiltrates, and pleural effusions. These findings are nonspecific and can also be seen in other infections or inflammatory conditions.
- Hepatosplenomegaly can be seen in some cases of babesiosis.
- Severe babesiosis can lead to renal complications, such as acute kidney injury. In some cases, imaging studies like ultrasound or computed tomography (CT) may reveal changes associated with renal dysfunction, including enlarged kidneys or evidence of acute tubular necrosis.

## Conclusions

The radiographic findings in babesiosis are not specific to this infection alone. They can be observed in other tick-borne illnesses, viral or bacterial infections, or even non-infectious inflammatory processes. Therefore, clinical correlation and history of encounter with ticks are crucial for accurate diagnosis and appropriate management.

## References

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