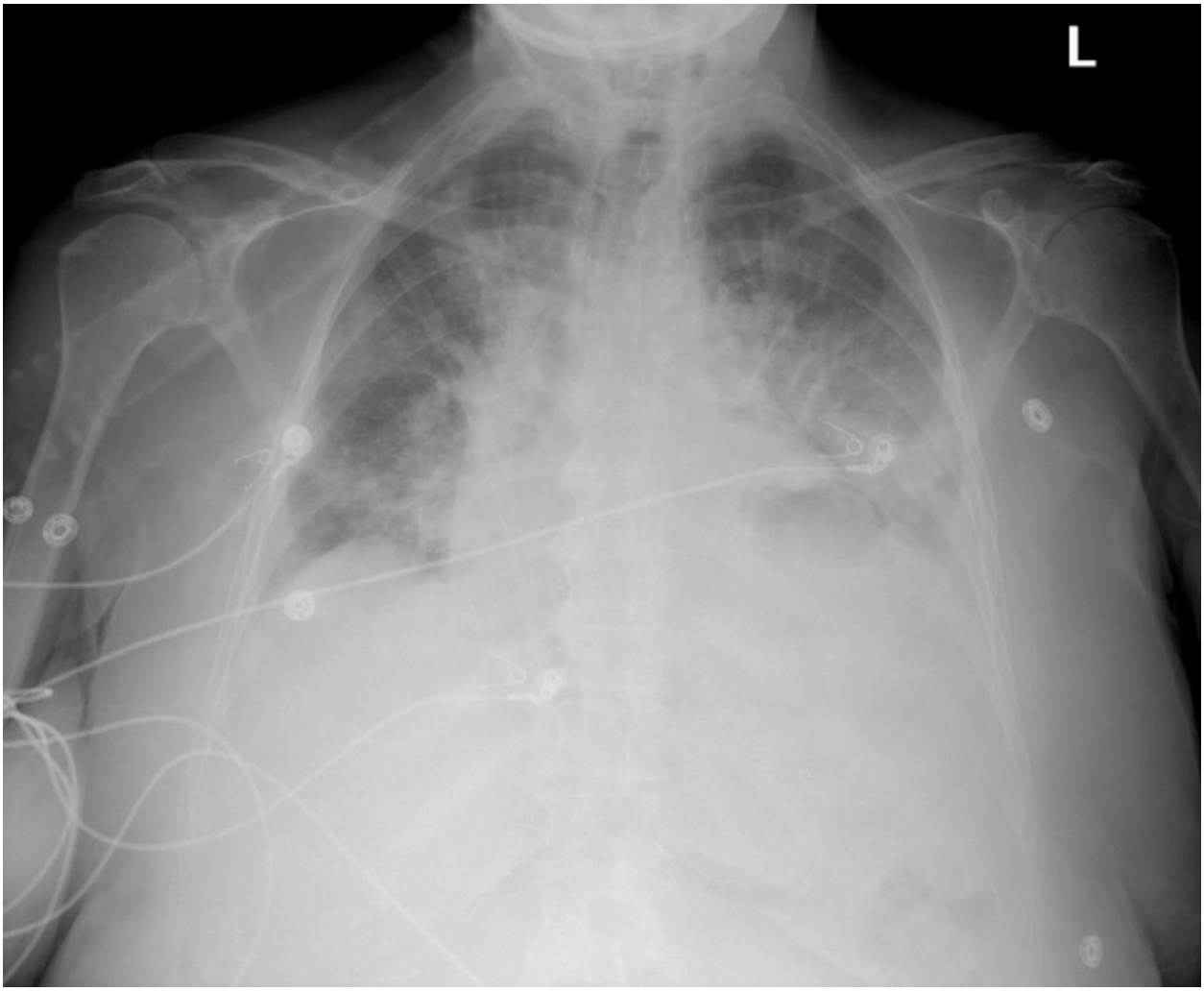
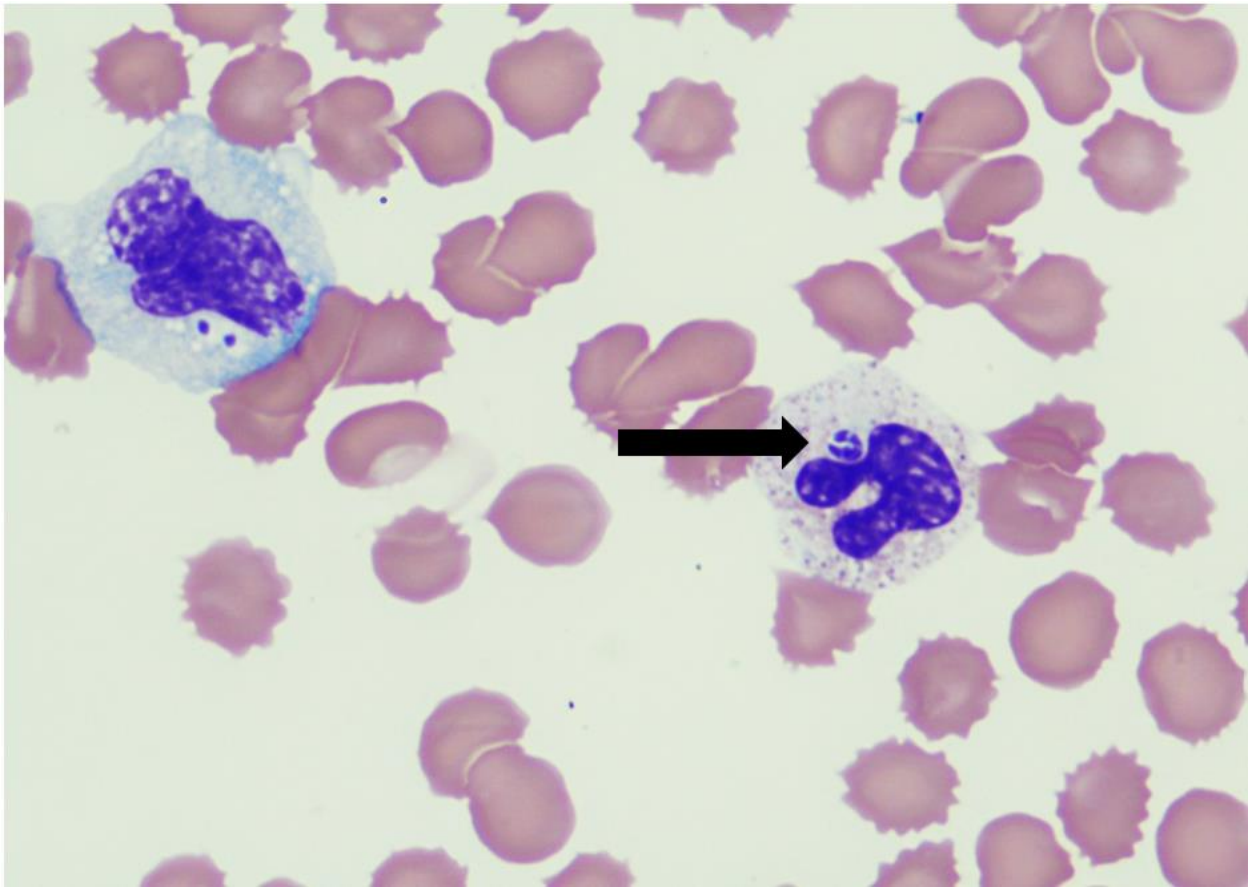
Supplemental files

Figure 1.



Portable chest x ray (Anteroposterior view) on admission to the second facility showing increased pulmonary vascular markings (suggestive of pulmonary edema) and a left basilar opacity obscuring the left hemidiaphragm and cardiac apex (suggestive of an airspace disease or pleural effusion)

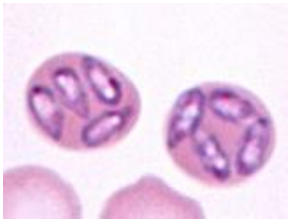
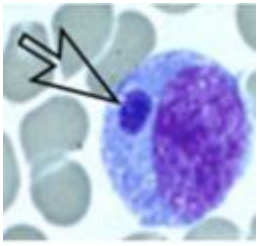
Figure 2.



Peripheral blood smear (100x) showed neutrophils with toxic granulation, vacuolization, and discrete intracytoplasmic inclusions (arrow). Other findings observed include monocytes with large purple granules, numerous echinocytes, and decreased platelets.

Anaplasma morulae are irregularly shaped, purplish inclusions, variable in size and more prominent than background toxic granules. Definitive diagnosis of HGA can be difficult if only a few cells contains inclusions. A buffy coat preparation which increases the number of white blood cells on a slide may improve detection. Mimics of morulae include Howell-Jolly body-like inclusions and barr bodies. Howell-Jolly body-like inclusions are discrete round purple nuclear fragments associated with immunosuppression, antiviral medications and myelodysplastic syndrome. While barr bodies are inactivated X chromosomes that are attached to the nuclear membrane of neutrophils.

Figure 3.

	BABESIOSIS	**ANAPLASMOSIS/ EHRLICHIOSIS**	**ROCKY MOUNTAIN SPOTTED FEVER**
PLATELETS	Thrombocytopenia	**Thrombocytopenia** (70%)	Thrombocytopenia (40%, mild initially)
WBCs	Variable (Low, Normal or High)	Leukopenia Lymphopenia Atypical lymphocytes may occur	Variable (Low, Normal or High)
RBCs	**Hemolytic anemia** (Major diagnostic feature), ↑↑ LDH, ↓Haptoglobin, Hemoglobinuria, ↑Bilirubin	Anemia may occur later in the clinical course	Anemia in about 15%
LIVER ENZYMES	Transaminitis	Mild to moderate transaminitis	Mild transaminitis
COAGULATION	DIC is common	DIC is uncommon	DIC is rare
FERRITIN	Often increased possibly related to hemolysis or HLH	Often increased in severe cases	May be elevated in secondary HLH
BLOOD SMEAR			
TREATMENT	**Clindamycin** + **Quinine** for 7-10 days (if severe case) OR **Azithromycin + Atovaquone** (Alternative) **Exchange transfusion for hemodynamically unstable patients or parasitemia > 10%**	**Doxycycline** for at least 7 days or until afebrile for 3 days	**Doxycycline** for 7-10 days

Acknowledgement: The Wright Center residents who compiled this case report extend their gratitude to Dr. Simin Nasr for her guidance in writing this case report.