Babesiosis

Diagnostic confirmation, treatment regimens by patient category, exchange transfusion, post-treatment monitoring, and non-B. microti species pearls.

2020 IDSA Clinical Practice Guideline
Diagnosis and Management of Babesiosis
Krause, Auwaerter, Bannuru et al. · Clin Infect Dis 2021;72(2):e49-64

STRENGTH *7 GRADE recommendations — mostly strong/moderate-quality for diagnosis & treatment; monitoring and exchange transfusion recommendations are weaker (weak, low-to-moderate quality).*

1 Diagnostic Confirmation

STATEMENT	STRENGTH
R1 — Confirm acute babesiosis with peripheral blood smear or PCR rather than antibody testing	Strong Moderate
R2 — Positive Babesia antibody test: confirm with blood smear or PCR before treating — antibodies can persist ≥1 yr after clearance	Strong Moderate

2 Treatment Regimens by Patient Category

CATEGORY	PREFERRED / ALTERNATIVE REGIMEN (ADULT DOSES; TREAT 7–10 D UNLESS NOTED)
Ambulatory, mild-moderate	Immunocompetent, parasitemia < 4%, no admission needed. **Preferred:** atovaquone 750 mg PO (with fatty meal) Q12h + azithromycin 500 mg day 1 then 250 mg PO Q24h. **Alt:** clindamycin 600 mg PO Q8h + quinine sulfate 650 mg PO Q8h.
Hospitalized, acute severe	**Preferred:** atovaquone 750 mg PO Q12h + azithromycin 500 mg IV Q24h until symptoms abate, then convert to step-down oral therapy. **Alt:** clindamycin 600 mg IV Q6h + quinine sulfate 650 mg PO Q8h until abate, then step-down.
Hospitalized step-down (oral)	**Preferred:** atovaquone 750 mg PO Q12h + azithromycin 250–500 mg PO Q24h (500–1000 mg for immunocompromised). **Alt:** clindamycin 600 mg PO Q8h + quinine sulfate 650 mg PO Q8h.
Highly immunocompromised	**R3 —** Preferred regimen is atovaquone + azithromycin OR clindamycin + quinine (strong, moderate). Start with severe-disease regimen → step down; treat ≥6 consecutive wks total, including 2 final wks with negative blood smears. Relapse → consider Section 6 regimens

3 Exchange Transfusion for Severe Disease

STATEMENT	STRENGTH
R4 — Consider RBC exchange transfusion in selected patients with severe babesiosis — parasitemia >10%, or severe hemolytic anemia and/or severe pulmonary/renal/hepatic compromise. Obtain transfusion medicine/hematology + ID consultation	Weak Low

4 Monitoring After Therapy Initiated

STATEMENT	STRENGTH
R5 — Immunocompetent: monitor parasitemia by blood smear during acute illness; against testing once symptoms resolve	Strong Moderate
R6 — Immunocompromised: monitor smears even after asymptomatic, until negative. Consider PCR if smears negative but symptoms persist	Weak Moderate

5 Non-B. microti Species — Practical Pearls

SPECIES	NOTES
B. duncani	West Coast US (<15 cases). Treated with IV clindamycin + oral quinine × 7–10 d; atovaquone/azithromycin efficacy not evaluated
B. divergens	Europe, US, China (>50 cases); almost always severe, typically asplenic patients. IV clindamycin + oral quinine; early exchange transfusion in Europe reduces mortality
B. venatorum	Europe: splenectomized/malignancy patients, more severe — clindamycin ± quinine, atovaquone + azithromycin for cure in refractory cases. China: spleen-intact, mild-moderate — atovaquone/azithromycin or clindamycin alone effective

6 Refractory Infection — Alternative Regimens (Limited Evidence)

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Option 1	Atovaquone + azithromycin* + clindamycin
Option 2	Atovaquone + clindamycin
Option 3	Atovaquone/proguanil + azithromycin*
Option 4	Atovaquone + azithromycin* + clindamycin + quinine
*Azithromycin	Consider 500–1000 mg daily dosing when used in these refractory combinations

Krause PJ, Auwaerter PG, Bannuru RR, et al. Clinical Practice Guidelines by the Infectious Diseases Society of America (IDSA): 2020 Guideline on Diagnosis and Management of Babesiosis. *Clin Infect Dis.* 2021;72(2):e49–e64.