Oncology Clinical Pathways
Hairy Cell Leukemia

November 2024 – V3.2024

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Presumptive Conditions – Hairy Cell Leukemia

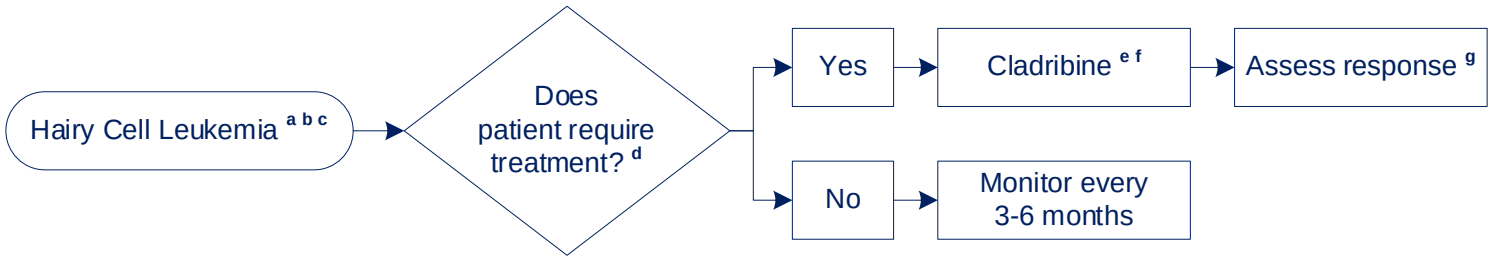
VA automatically presumes that certain disabilities were caused by military service. This is because of the unique circumstances of a specific Veteran's military service. If a presumed condition is diagnosed in a Veteran within a certain group, they can be awarded disability compensation.

Atomic Veterans – Exposure to Ionizing Radiation

- All forms of leukemia, except chronic lymphocytic leukemia

For more information, please visit U.S. Department of Veterans Affairs - Presumptive Disability Benefits (va.gov)

Hairy Cell Leukemia



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email CancerClinicalTrialsNavigation@va.gov.

[a] **Diagnosis** Hairy Cell Leukemia (formerly classic hairy cell leukemia) bone marrow biopsy or peripheral blood with characteristic cytology (small to intermediate cells with bland ground-glass chromatin, inconspicuous nucleoli, and pale cytoplasm with circumferential fine villous cytoplasmic projections) and/or bone marrow morphology ("fried egg" appearance, diffusely increased reticulin fibers), as well as, characteristic immunophenotype by flow cytometry or IHC (bright CD20, bright CD22, bright surface immunoglobulin, CD11c, CD103, CD25, CD123, annexin-1, and weak/patchy cyclin D1); molecular testing is positive for *BRAF* V600E mutation

[b] **Baseline Labs** CBC and metabolic panel Hepatitis B serologies, HIV testing, Hepatitis C

[c] **Splenic B-cell Lymphoma/Leukemia** Hairy Cell Variant is negative for the *BRAF* V600E mutation; per the 5th edition of the World Health Organization classification of lymphoid tumors Hairy Cell Variant is now classified as *Splenic B-cell Lymphoma with prominent nucleoli;* pathway does not pertain to this variant, as this is a heterogeneous group

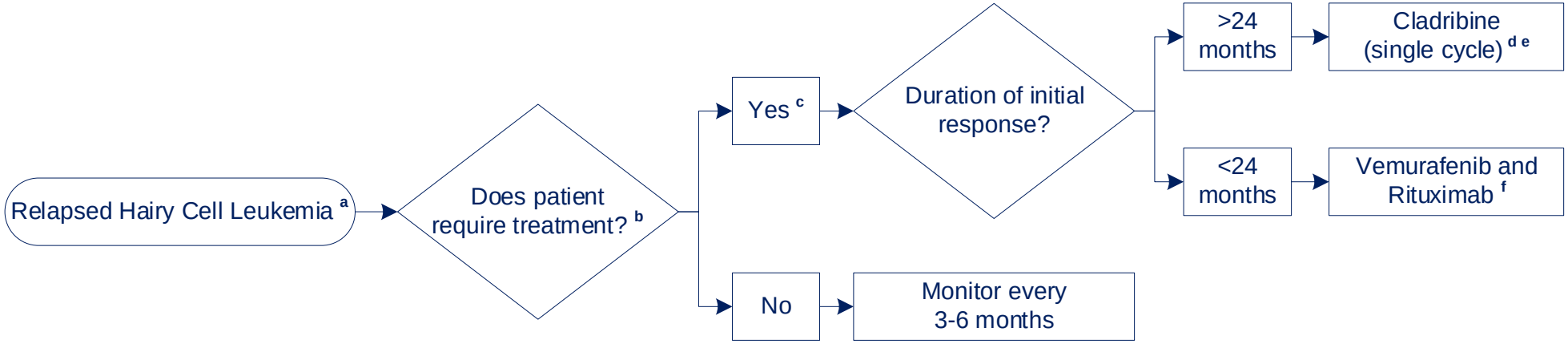
[d] **Patient Requires Treatment** if ANC <1000/mm^3, hgb <11 g/dL or platelets <100,000/mm^3, constitutional or B-symptoms (e.g. weight loss, fever, fatigue, night sweats) or symptomatic splenomegaly

[e] **Cladribine** 0.14 mg/kg IV daily for 5 days for one cycle

[f] **Supportive Care** frequent monitoring of CBCs for the first 6 weeks after initial therapy; recommend PJP and varicella prophylaxis for first 12 months after Cladribine; make sure patient is up to date on all vaccinations (e.g. COVID, influenza, pneumococcus, and varicella-zoster virus); do not administer live attenuated vaccines; screen for secondary malignancies, particularly non-melanoma skin cancers

[g] **Assess Response** delayed response is typical; blood counts do not normalize until at least 6-9 months after treatment

Hairy Cell Leukemia – Relapsed



Clinical trial(s) always considered on pathway. For assistance finding a clinical trial, email CancerClinicalTrialsNavigation@va.gov.

[a] **Confirmed diagnosis** with bone marrow biopsy

[b] **Patient Requires Treatment** if ANC <1000/mm^3, hgb <11 g/dL or platelets <100,000/mm^3, constitutional or B-symptoms (e.g. weight loss, fever, fatigue, night sweats) or symptomatic splenomegaly

[c] **For poor responders or early relapses** consideration for referral to cell therapy

[d] **Supportive Care** frequent monitoring of CBCs for the first 6 weeks after initial therapy; recommend PJP and varicella prophylaxis for first 12 months after Cladribine; make sure patient is up to date on all vaccinations (e.g. COVID, influenza, pneumococcus, and varicella-zoster virus); do not administer live attenuated vaccines; screen for secondary malignancies, particularly non-melanoma skin cancers

[e] **Rituximab** may be added to Cladribine but does increase the risk of infection, including COVID; Hepatitis B serologies prior to starting anti-CD20 antibody therapy; consider HBV DNA if HBsAg or HBcAb positive; prescribe entecavir if HBsAg or HBcAb positive

[f] **Vemurafenib and Rituximab** limited duration of therapy; maintenance rituximab increases infectious risk; baseline labs CBC and metabolic panel Hepatitis B serologies, HIV testing, Hepatitis C

Hairy Cell Leukemia – Molecular Testing Table

Eligibility	Test Category	Test Type	Recommended Vendors	NPOP Coverage	Specimen Type
Hairy Cell Leukemia (HCL)	IHC/Flow Cytometry	Expression of CD20, CD22, CD11c, CD200 and co-expression of CD25, CD103, CD123 TRAP, Annexin-A1, cyclin D1, TBX21/T-Bet	Local VA or locally contracted vendor	No	Bone Marrow Biopsy, Lymph Node Biopsy, Blood
	IHC	BRAF V600E (If not tested by molecular)	Local VA or locally contracted vendor	No	Bone Marrow Biopsy, Lymph Node Biopsy, Blood
	Molecular Testing	BRAF V600E (If not tested by IHC)	Local VA or locally contracted vendor	No	Bone Marrow Biopsy, Lymph Node Biopsy, Blood
Clinical and Pathological Suspicion for Hairy Cell Leukemia, BRAF-Negative	Somatic NGS*	DNA-based NGS panel with lymphoid targets including: MEK-ERK pathway genes: BRAF, MAP2K1, CDKN1B, KMT2C, KLF2, TP53, NOTCH2, CCND3, U2AF1, BCOR, IKBKB, TNFAIP3, TRAF3, MAP3K14, TRAF2, BIRC3, MYD88	Foundation Medicine	Yes	Bone Marrow Biopsy, Lymph Node Biopsy, Blood

* Can be performed on subsequent peripheral blood sample