

Data review on a new flow cytometry panel for the diagnosis of low grade B-cell lymphoproliferative disease

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BACKGROUND

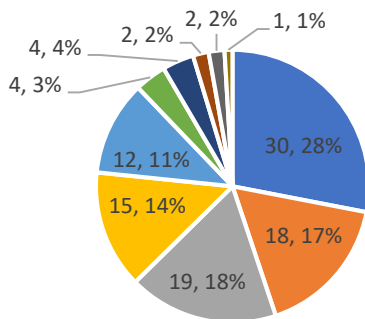
Low grade B-cell lymphoproliferative disease(B-CLPD) has a relatively high prevalence around the world. Accurate subclassification of B-CLPD is essential for better patient care, affecting management strategy.

OBJECTIVE AND METHODOLOGY

To review the performance of a new 8-color, 21-marker(CD45, CD19, CD3, CD4, CD8, CD56, CD20, CD79b, kappa/lambda light chain, CD5, CD23, CD10, CD200, CD11c, CD43, CD81, IgM, CD31, CD305 and CD38) flow cytometry panel in the diagnosis of B-CLPD during Oct 2018 and June 2020. Data was reviewed with no interobserver bias by one pathologist with experience in reporting flow cytometry result.

RESULT

Newly diagnosed B-CLPD(107 cases) subclassification during Oct 2018 and June 2020



- Chronic lymphocytic leukaemia/Small lymphocytic lymphoma (CLL/SLL)
- CD5-positive B-cell lymphoproliferative disease, unclassifiable
- B-cell lymphoma with plasmacytic differentiation
- Monoclonal B-cell lymphocytosis
- CD5-negative B-cell lymphoproliferative disease, unclassifiable
- Follicular lymphoma (FL)
- Mantle cell lymphoma (MCL)
- Splenic diffuse red pulp small B-cell lymphoma (SDRPL)
- Splenic lymphoma with villous lymphocytes (SLVL)
- B-cell prolymphocytic leukaemia (B-PLL)

	CLL/SLL (30)	MCL classic (2)	FL (4)	SDRPL (2)	SLVL (2)	B-PLL (1)
Light chain	Less than normal (26/30)	Bright	NI	NI	NI	Bright
CD20	Less than normal (26/30)	NI	NI	NI	NI	Bright
CD79b	Dim/neg (25/30)	NI	NI	NI	NI	NI
IgM	Dim/neg (22/30)	Moderate to bright/Bright	NI	Neg	Neg	Bright
CD5	Pos	Pos	Neg	NI	NI	NI
CD23	Pos (27/30)	Neg	NI	NI	NI	NI
CD10	NI	NI	Pos	NI	NI	NI
CD200	Moderate to bright/bright (28/30)	Neg	NI	NI	NI	NI
CD43	Moderate/moderate to bright (24/30)	NI	Neg	NI	NI	NI
CD31	NI	NI	Neg	NI	NI	NI
CD305	NI	NI	Neg	Moderate to bright/Bright	Moderate to bright/Bright	NI
CD11c	NI	NI	NI	Dim to moderat/moderate to bright	Dim to moderate/moderate to bright	NI

Dim staining is defined by slightly increased when compared to negative control
 Moderate staining is defined by at least one log decade brighter than negative control
 Bright staining is defined by at least two log decades brighter than negative control
 NI indicate Not Informative

CONCLUSION

The new 8-color flow cytometry panel is powerful in assisting the diagnosis and subclassification of low-grade B-cell lymphoproliferative disease.