Supplemental data 1

Data collection

Data were collected from the French BPDCN network and the *Société Francophone de Greffe de Moelle et de Thérapie Cellulaire* (SFGM-TC) registries. Collection ended on 1 March 2016. Both databases were cross-checked, and data were verified with additional items directly collected in each center using a dedicated, predefined case report form.

Variables recorded in the database included: demographics, date of initial diagnosis, clinical and biological characteristics at diagnosis, type of primary chemotherapy, disease status at completion of primary treatment, date and type of HSCT, date and type of treatments after relapse, disease status at last contact, and date of last contact or death. Data were missing for 7 cases for blood cell count and for 13 cases for myelogram. Anatomopathology analysis is not described since we focus on data obtained in hematology laboratory.

The study was approved by the local ethics committee (CPP Est II) and the Advisory Committee for Data Processing in Health Research.

Patients

For all cases but 3, diagnosis was confirmed by local histopathology and immunohistochemistry analyses of infiltrated tissues (skin, bone marrow or lymph node) or by flow cytometry using specific pDC markers as described (5). For the remaining 3 cases, the diagnosis was retained by physicians based on the presence of cutaneous lesions, expression of CD4 and CD56 without expression of specific lineage markers (MPO^-, $CD14^-$, $cCD3^-$, $cCD79a^-$ and $CD19^-$).

Flow cytometry: Markers used to characterize BPDCN patients.

markers	fluorochrome	provider	reference
CD45	V500	BDPharmingen	560777
T lineage			
CD2	FITC	Beckman Coulter	A07743
CD3	AF750	Beckman Coulter	A94680
cCD3	APC	Beckman Coulter	IM2467
CD5	FITC	Beckman Coulter	A08932
CD7	V450	BDPharmingen	642916
CD8	AF750	Beckman Coulter	A94683
CD45 RA	AF750	Beckman Coulter	A86050
CD45RO	PC7	BDPharmingen	337168
CD1a	PE	Beckman Coulter	A07742
myeloid lineage			
CD13	PE	BDPharmingen	34746
CD14	APC-H7	BDPharmingen	641394
CD15	FITC	BDPharmingen	IM1423U
CD65	FITC	BDPharmingen	IM1654U
CD33	PERCP CY5.5	Beckman Coulter	333146
CD36	FITC	BDPharmingen	555454
CD64	PC5	Beckman Coulter	IM3606U
CD117	APC	BDPharmingen	333233
cCD13	PE	BDPharmingen	34746
cMPO	FITC	Dako	F0714
B lineage			
CD19	APC	Beckman Coulter	A07769
CD20	V450	BDPharmingen	655872
CD10	APC	Beckman Coulter	IM3633
CD22	PERCP CY5.5	BDPharmingen	563942
CD57	FITC	BDPharmingen	555619
cCD79a	PE	Dako	R7159
cCD22	PERCP-VIO-700	Miltenyi	130-111-528
pDC markers			
CD4	APC-H7	BDPharmingen	560158
CD56	V450	BDPharmingen	560360
CD123	PE-CY7	Biolegend	306010
HLADR	FITC	BDPharmingen	555811
CD303	FITC	Miltenyi	130-090-510
CD304	PE	Miltenyi	130-090-533
cTCL1	PE	Affymetrix	12-6699-73
FCER1	APC	Affymetrix	17-5899-42
ILT7	APC	Affymetrix	17-517942
conventional DC markers			
CD11c	PERCP CY5.5	BDPharmingen	658330
BDCA1	PE	Miltenyi	130-090-508
BDCA3	APC	Miltenyi	130-090-907
immaturity/others markers			
CD34	V450	BDPharmingen	345804
CD38	APC	BDPharmingen	345807
CD133	PE	Miltenyi	130-080-801
CD10	FITC	Beckman Coulter	A07759
TdT	FITC	Dako	F7139