HTLV ADULT T-CELL LEUKEMIA/LYMPHOMA (ATL): A RETROSPECTIVE STUDY IN FRENCH GUIANA 2009-2019

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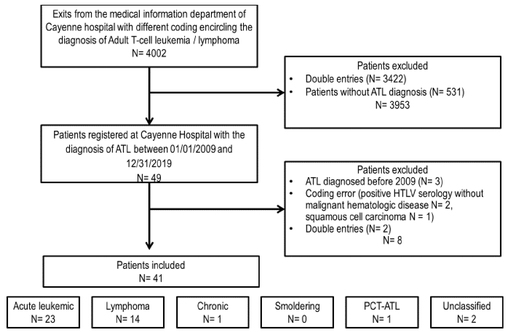
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BACKGROUND

Adult T-cell leukemia / lymphoma (ATL) is one of the most aggressive cancers in the world. HTLV-1 induces ATL in 5% of the 10 million people living with the virus worldwide. French Guiana, the largest French department, is one of the most important endemic areas in the world. However, clinical and prognosis data concerning ATL are lacking. The purpose of the present study was to describe the demographic, clinical and outcome characteristics of ATL patients in French Guiana during the period 2009 to 2019.

METHODS

Ethics committee approval : N°F20211125135043. We collected data from all patients diagnosed between 2009 and 2019. Patients were distributed according to Shimoyama's classification. Continuous variables were compared using a Mann Whitney test. Survival curves were evaluated by the Kaplan-Meier method. Assessment of prognostic factors was based on a Cox proportional hazard model.

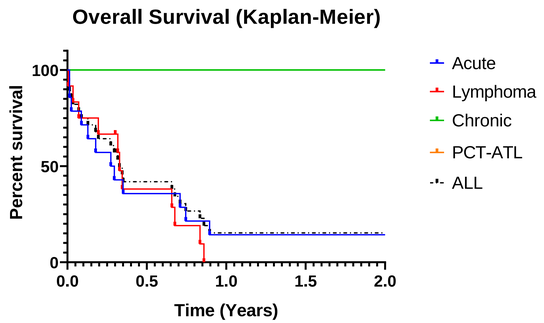


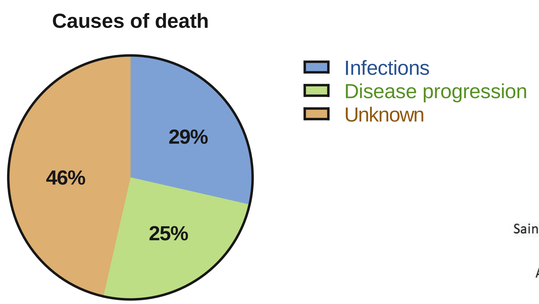
Clinical and biological characteristics of patients with ATL at diagnosis

Characteristic	Unit	Patients evaluated	All	ATL subtypes according to Shimoyama's classification			
				Acute	Lymphoma	Chronic	PCT-ATL
Female sex	N (%)	41 (100%)	23 (56%)	16 (70%)	5 (36%)	1 (100%)	1 (100%)
Age at diagnosis	Median (range) years	41 (100%)	54.5 (17-88)	54 (30-88)	61(17-78)	59	42
Leukocytes	G/L	40 (97%)	12 (1.6-120)	44.4 (3.9-120)	7 (1.6-15)	6.8	2.4
Abnormal lymphocytes	N/mm 3 (% of Leukocytes)	34 (83%)	2873 (22.1%)	35 000 (48.9%)	0	0	NA
Creatinine at diagnosis	µmol/L	40 (97%)	76 (42-403)	89 (44-403)	73.5 (42-137)	55	61
LDH	UI/L	29 (71%)	790 (221-12739)	820 (221-3351)	703.5 (286-12739)	367	683
LDH > ULN	%	29 (71%)	93.1%	88.2%	100%	100%	100%
Calcemia	mmol/L	40 (97%)	3.1 (2.09 – 6.5)	3.66 (2.3 – 6.5)	2.5 (2.09 – 4.8)	2.51	2.48
Hypercalcemia at diagnosis	%	40 (97%)	55%	69.5%	42.8%	0	0
Calcemia maxima	mmol/L	40 (97%)	3.61 (2.3 – 6.8)	4.15 (2.3 – 6.8)	3.31 (2.36 – 5.49)	2.51	2.52

Abbreviations: LDH: lactate dehydrogenase; ULN : upper limit of normal

Maroons are the most represented in the French Guianese ATL study population.
56% had an acute-type, 34% had a lymphoma-type.
The 4-year-survival was 11% and 0% for the acute and lymphoma groups, respectively.





RESULTS

Among the study population, 23 patients (56%) had an acute-type, 14 (34%) a lymphoma-type, one had a chronic type and one had a primary cutaneous type. Hypercalcemia was associated with the acute-type (69.5% in the acute group vs. 42.8% in the lymphoma group; p = 0.015). The first-line treatment modalities were based either on polychemotherapy or on zidovudine combined with pegylated interferon alpha. The 4-year survival was 11.4% for the entire population with 0% and 11% in the lymphoma and acute groups, respectively. The median survival time was 104 days in the acute group and 120 days in the lymphoma group (p = 0.37). The cause of death were infections (29%), disease progression (25%) and unknown (46%). Male sex, the presence of "B" signs and hypercalcemia were rather associated with a poor prognosis. Conversely, deworming appears to be a potential good prognostic factor.

CONCLUSIONS

This study is the first to highlight features of ATL in French Guiana: a younger age, a high incidence of acute type, low incidence of indolent subtypes and worse survival rates compared to Japanese patients (median age at diagnosis of 68 years and a 4-year survival of 16.8% and 19.6% for the acute and lymphomatous types respectively). Maroon or Bushinenge population, the descendants of slaves who early fled the Dutch plantations, is the most represented and most affected by HTLV-1 in French Guiana. The Maroons, taken as a whole, are more numerous (36%) than any other component of the Guyanese population, including the Creoles. Genetic diversity studies have shown a major African contribution up to 95.7%. This is believed to be unique of Maroons compared to other African American populations of Latin American. This study may suggest the interest of screening HTLV-1 infection in this population and to study tools for early detection of ATL in people living with HTLV-1.

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