Ayers et al. Infectious Agents and Cancer 2010, 5(Suppl 1):A19
http://www.infectagentscancer.com/content/5/S1/A19

INFECTIOUS AGENTS AND CANCER

MEETING ABSTRACTS Open Access

Diagnosis of HIV-related malignancies in resource-constrained settings of sub-Saharan Africa, a cautionary tale for non-Hodgkin's lymphoma

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From 12th International Conference on Malignancies in AIDS and Other Acquired Immunodeficiencies (ICMAOI)
Bethesda, MD, USA. 26-27 April, 2010

Background

Non-Hodgkin's lymphoma (NHL) subgroups, immunophenotypes, and genotypes have been defined in developed countries but how that information translates to resource-constrained sub-Saharan Africa medical settings is undocumented. Local published data on NHL subgroups come largely from retrospective clinical biopsy study sets of paraffin-embedded tissues filed in local pathology archives. Relatively poorer representation of the rural and low socioeconomic populations is likely in such data. Prospectively identified NHL subgroups using immunologic and molecular techniques in consecutive presentations of patients would best clarify NHL subgroups and confounding diagnoses.

Materials and methods

Approximately 456 cases of malignant lymphoma (ML) from both the sub-Saharan African Lymphoma Consortium and Mid-region AIDS and Cancer Specimen Resource (ACSR) projects in East Africa were examined for microscopic morphology and 30 monoclonal antibodies for common NHL antigens; Lana-1 for HHV-8 (immunohistochemical, IHC); in situ hybridization (ISH) for EBV-encoded RNA, kappa/lambda light chains

Table 1 Confounding tumor look-alikes

Tumor	Subtype examples/confounding factors	Presentation or clinical classification
Fungal infections	African histoplasmosis	Kaposi's sarcoma
	Entomophthoromycosis – *Basidiobolus ranarum*	NHL
	HIV-1 lymphadenopathy, follicular hyperplasia	NHL
Viral lymphadenopathy	EBV lymphadenopathy or lymphoproliferative disorders	NHL
	HHV-8 lymphoblastic lymphoma	Burkitt lymphoma
	Castleman's disease	Atypical hyperplasia
Pediatric small round cell tumors	Undifferentiated neuroblastoma	Burkitt lymphoma
	Primitive neuroectodermal tumors (PNET)	Burkitt lymphoma
Hodgkin's disease	Lymphocyte predominant	Burkitt lymphoma
Carcinomas	Poorly differentiated	NHL

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(Ventana, Tucson, AZ); and fluorescent in situ hybridization (FISH) c-myc t(8;14) (Abbott/Vysis, Downer's Grove, IL).

Results

There was a small but consistent population of other tumors that reduced the accuracy of both the clinical and histopathology diagnosis of NHLs including those given in Table 1.

Conclusions

Clinical diagnosis of NHL is complicated by other pathological entities that lead to inaccuracies. Histopathology diagnosis based on hematoxylin and eosin (H&E) stained tissue morphology alone improves accuracy (vs. clinical diagnoses alone) but can provide additional inaccuracies due to tumor look-alikes. Caution is warranted in considering either clinical diagnosis or local histopathology diagnosis in a resource-constrained medical setting as accurate in the conduct of clinical treatment trials or epidemiology studies.

Acknowledgements

This article has been published as part of *Infectious Agents and Cancer* Volume 5 Supplement 1, 2010: Proceedings of the 12th International Conference on Malignancies in AIDS and Other Acquired Immunodeficiencies (ICMAOI). The full contents of the supplement are available online at http://www.biomedcentral.com/1750-9378/5?issue=S1.

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Published: 11 October 2010

doi:10.1186/1750-9378-5-S1-A19
Cite this article as: Ayers *et al.*: Diagnosis of HIV-related malignancies in resource-constrained settings of sub-Saharan Africa, a cautionary tale for non-Hodgkin's lymphoma. *Infectious Agents and Cancer* 2010 **5**(Suppl 1):A19.