

Presented at the 7th European Congress of Tropical Medicine
and International Health, October 2011

VL-HIV co-infection in East Africa Current Challenges and Perspectives

Ermias Diro, MD, PhD student
University of Gondar, Ethiopia
Institute of Tropical Medicine, Antwerp

7thECTMIH, Barcelona, Oct 3 - 6/2011

Outline of Presentation

- VL-HIV co-infection in East Africa (focus on Ethiopia)
 - Evolution and trends in incidence and geographical spread
 - Current diagnostic and treatment approaches
 - Outcome data (published and unpublished)
 - Major clinical research questions


East Africa and VL

- Second largest VL foci region in the world
- Annual case report:
 - Sudan – 30,000 cases
 - Ethiopia – 5,000 cases



VL Endemic Areas in Ethiopia

**Highest VL-HIV
coinfection –
North-West
Ethiopia**

 VL endemic
areas



HIV co-infection rate: 20-30%

Main Care and Treatment Providers for Leishmania in Ethiopia

DNDi

Drugs for Neglected Diseases *initiative*



FMoH
-Task Force
- National Guideline

- The medical care for leishmania patients is for free with the support of the partners
- The medical service in Ethiopia for the poor populations is for free

VL Endemic Area



Magnitude of VL-HIV Co-infection, Ethiopia

Study	Place, study period	Sample size	HIV prevalence	Over all VL case fatality	VL/HIV mortality
	AA, Army Hospital, 1992-2001	291 soldiers	48.5%		
Ritmeijer K (3), 2001	Humera, 1998-99	145	18.6%		
Lyons (4), 2003	Humera 1998-2000	213	23%		
Ritmeijer K (5), 2006	Humera, 2004	375	29%		14.3%
Mengistu G, (6)2007	Gondar hospital, 1999-2004	212	87 (41%)	24.4%	39.3%
Unpublished	Addis Zemen, 2005		10-15%		
Unpublished	Southern regions		<2%		

HIV/VL in Sudan

- 2002 (all age) - Southern Sudan (rural) – 0.4%
- 2005 (adults) – Southern Sudan (urban) – 5%
- 2005 (adults) - Um-el-Kher/Eastern Sudan – 9%
- **Other East African Countries (Kenya, Somalia,..)**
 - Rarely reported

Diagnosis

- Case definition
 - Fever > 2 weeks
 - Splenomegaly
 - Weight loss
 - Visit to endemic area
 - Malaria excluded
- Serology tests (rk39, DAT)
- Tissue aspirate and parasite detection (definitive)

Comparison of VL with and without HIV coinfection (Hurissa et al, 2010)

Clinical condition	VL/HIV- (%)	VL/HIV+ (%)	OR
Fever	98.7	95.7	1
Splenomegaly	100	100	1
Diarrhoea	26.2	41.3	0.96
Respiratory findings	4.1	8.7	0.45
TB	6	27.2	<0.001
Sepsis	10.1	14.1	0.339
Other OI	0	15.2	
Good outcome	94.6	68.5	<0.001
Treatment failure (initial)	0	14.1	

Atypical Clinical Manifestations in VL-HIV

visceral leishmaniasis
and diffuse nodular
skin lesions



HIV infected patient with
fever of unknown origin

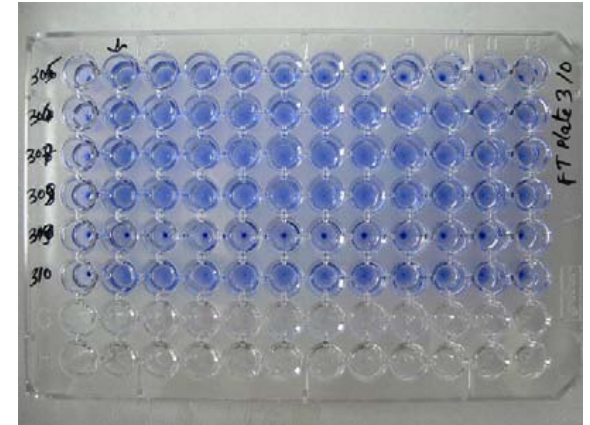
Kaposi sarcoma like lesions in an HIV patient with a positive microscopy for LD bodies



Unusual clinical features delay diagnosis of leishmaniasis

Performance of Rapid tests

- **Variable and inconsistent findings**
- **sensitivity of rk39 ELISA – 22% in Spain** (Medrano et al, 1998)
- **Few studies in East Africa**



Sensitivity	Rk39	DAT
HIV negative	87% / 84%	87% / 94%
HIV positive	77% / 77%	75% / 89%

MSF Experience
in North West
Ethiopia

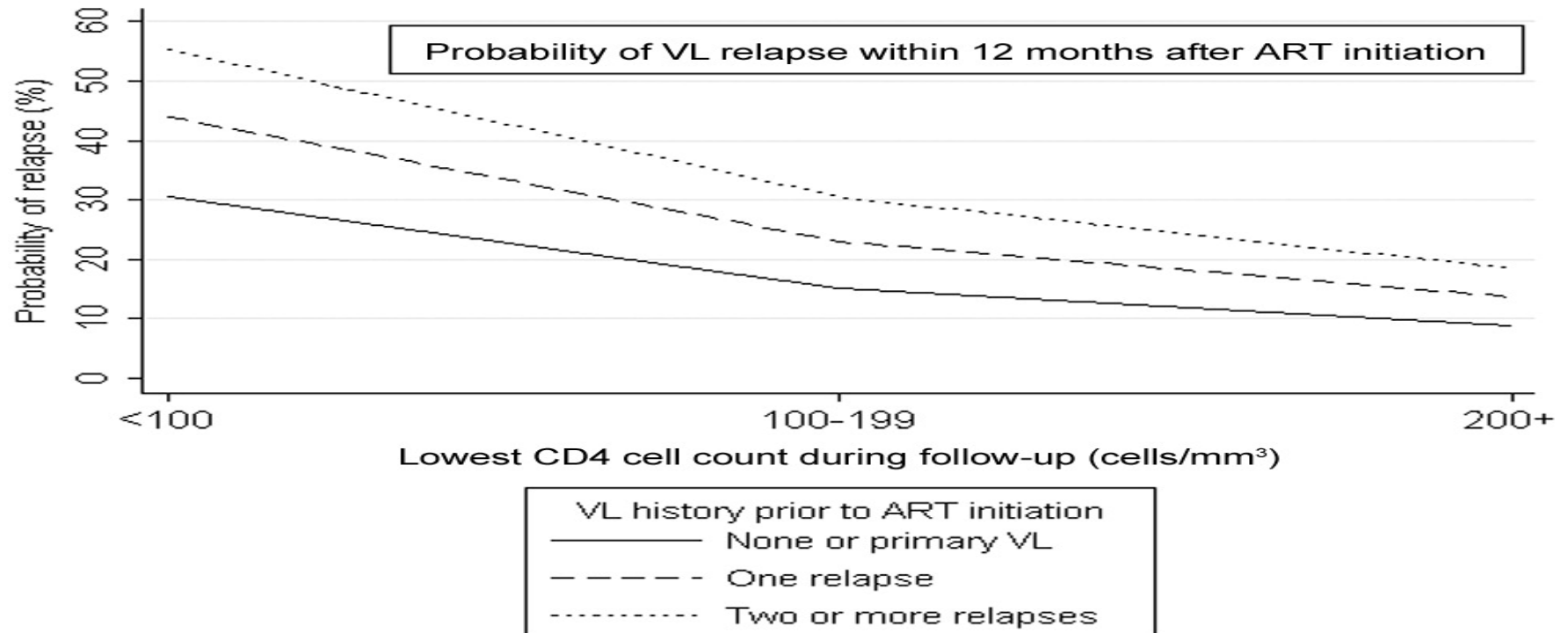
Black and red written figures are
from different studies

Treatment Outcomes (antimonials)

		HIV Neg	HIV Pos
Ritmeijer K et al. 2001, Experience from Humera, N- W Ethiopia	No treated	112	27
	Death during treatment	3.6%	33.3%
	Final cure (6m)	92.1%	43.5%

Case fatality rate	All VL	VL HIV
Mengistu G, Gondar, 2007	24.4%	39.3%

High Probability of Relapse



probability of relapse associated with CD4 cell count (post commencement of ART). Source: ter Horst *et al*, 2008; *CID*, 46: 1702-9

Challenges

- Increased prevalence of co-infections
- Atypical clinical picture
- Diagnostic challenges
 - Atypical manifestation
 - Low yield of easy diagnostics (serology)
 - Need for repeated invasive procedures
- Management challenges
 - High failure and relapse rate

Acknowledgment

- Asrat Hailu, Prof, parasitology, immunology and microbiology department, AAUMF
- Marleen Baeleart, Prof. Dr. Public Health, ITM
- Lut Lynen, Clinical Sciences Unit, ITM
- Johan v. Griensven, Clinical Sciences Unit, ITM
- DNDi, Switzerland