PRESENTATION OF INFECTIONS COEXISTENCE IN AN HIV+ PATIENT

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Patient history

Patient	
Sex	Male
Age	40 years
Nationality	Ukrainian
Date of admission	07/04/2009
HIV status	1 year
Route of transmission	Sexual
Screening for HIV	Clinical indications (2008 – Pulmonary TB)
HAART	Not receiving

Complaints
Severe generalized weakness
Fever with rigors
Loss of appetite
Joint pain
Nausea
Vomiting
Weight loss
Duration of the disease – 1 month

Epidemiological data	
1998-2007	Lived in Crimea, worked in a cafe on the seafront
Intravenous drug use	None
Blood transfusions	None

Physical examination

General condition	Ill-appearing
Weight	45 kg
Height	165 cm
RR	24 breaths/min
HR	98 beats/min
BP	80/50 mm Hg
Mouth	Tongue, tonsils, posterior oropharynx, gingiva all covered with whitish exudate
Lungs	Harsh breathing, no rales
Liver	Hepatomegaly (+ 4 cm)
Spleen	Splenomegaly (+ 5 cm)
Remainder of physical exam unremarkable	

Laboratory evaluations

Clinical blood test		
	Patient	Normal range
HB g/L	102	130-160
RBC x10^{12}/L	3,15	4-5.1
WBC x10^{9}/L	1,9	4-9
Basophils %	1	0-1
Lymphocytes %	54	18-40
Monocytes %	29	2-9
Band neutrophils %	7	1-6
Segmented %	4	47-72
Eosinophils %	5	0-5
Platelets x10^{9}/L	198	180-320
ESR mm/hour	57	1-10

Lymphocyte panel		
	Patient	Normal range
CD3+ cells/μL	427	1100-2200
CD19+ cells/μL	33	100-500
CD4+ cells/μL	38	600-1100
CD8+ cells/μL	360	500-1000
CD4/CD8	0.11	1-2.3
NK cells/μL	60	100-600

Bacteriological, mycological examination	
Blood culture	Negative
Sputum culture	Candida fungus

	IL-4		IL-10		TNF-α	
Conc. pg/ml	1.54 ↑	0.81±0.18	4.1 ↑	1.68±0.32	2.74 ↑↑	0.51±0.32
SNP	(-590C/C)		(-592C/C)		(-308G/A)	

Diagnostic procedure

Sternal puncture

Bone marrow aspirate showed intracellular and extracellular amastigotes (known as Leishman-Donovan bodies)

Overall diagnosis:

Stage IV HIV infection with oropharyngeal candidiasis, visceral Leishmaniasis, and radiographic evidence of residual pulmonary tuberculosis in the right upper lobe of the lung (focal calcifications)

Treatment

Blood transfusions

Desintoxication therapy

Desensitization therapy

Antibiotics, antifungals

Moxifloxacin 400 mg/day №5 Fluconazole 400 mg/day

Ceftriaxone 2.0 g/day №7

Antileishmanial therapy

Amphotericin B (Fungizone) 50 mg/day №11

Glucantime (Meglumine antimonate) 1.0 – 1.5 – 2.0 g/day, then 3.0 g/day №12

Outcome

From the 3rd day of specific therapy:
Clinical improvement with defervescence, decreased weakness and gain in weight
Improving of laboratory parameters

22/06/09:
Recrudescence of fevers to 38 ^{0}C
Headache
Neck stiffness
No focal neurological deficits

Lumbar puncture

Outcome

Cerebrospinal fluid test	
Transparency	limpid
Proteins mg/dL	138
Glucose g/L	0,89 (blood glucose 3,6)
Cells /mm3	280 (mainly lymphocytes)
Culture	sterile
HSV ½	negative
EBV	negative
CMV	negative
Toxoplasma gondii	negative
Cryptococcal antigens	not available
HIV-RNA	not available

Reactivation of tuberculosis, extrapulmonary form,
TB meningitis

Treatment

- 26/06/09 – TB treatment (HRZES)
- Antibiotic therapy with ceftriaxone and metronidazole
- Glucocorticoids (dexamethasone)
- Diuretics (mannitol)
- 16/09/09 – HAART (TDF+FTC+EFV)

Key points

"Internal" case characteristics

The 1st report of non-travel-related VL in HIV-infected person in Ukraine

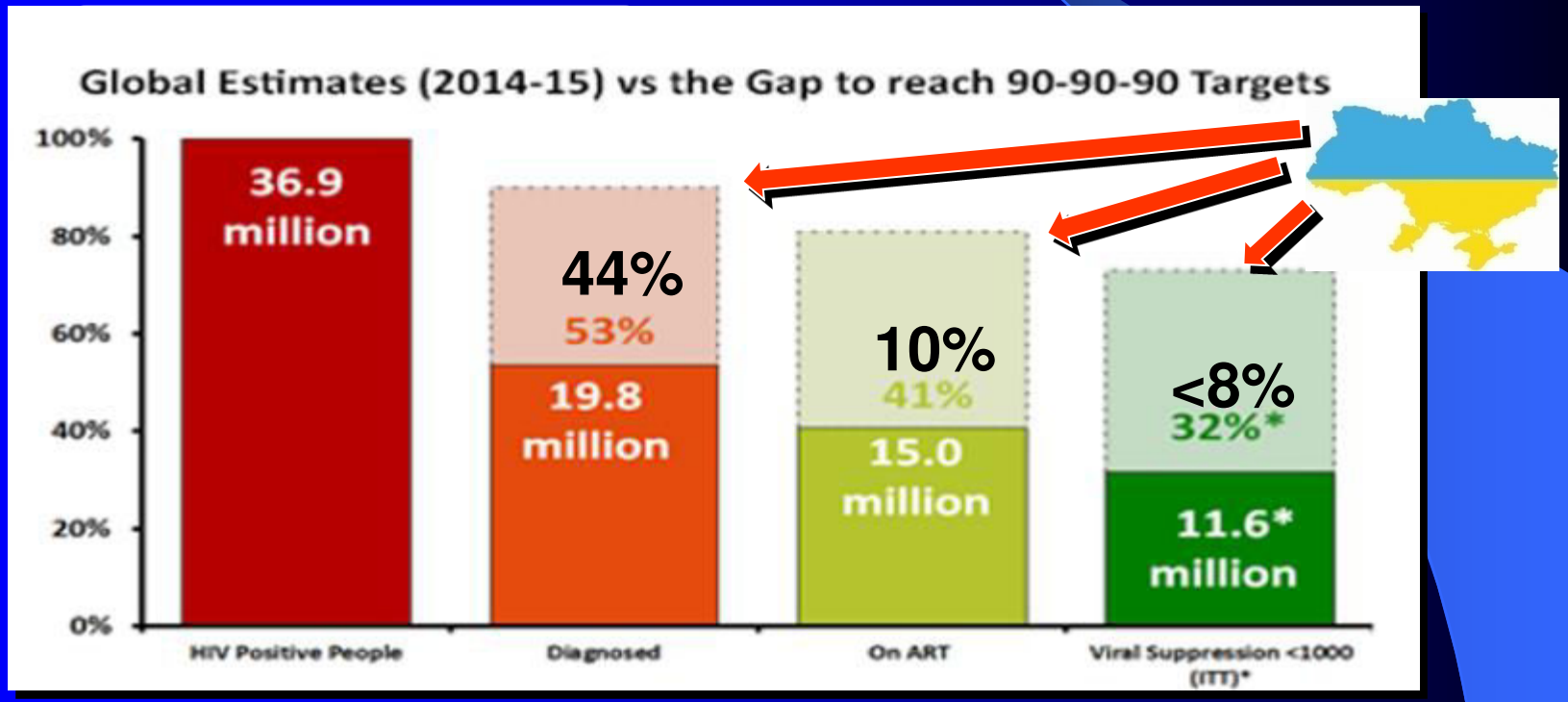
Severe HIV-mediated immunosupression

TNF-α (-308G/A) genotype

TB reactivation scenario

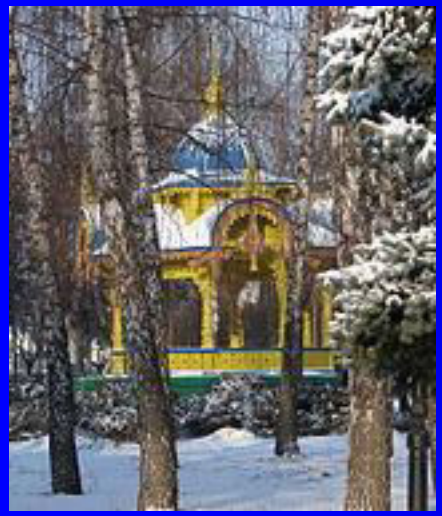
Key points

“External” case characteristics



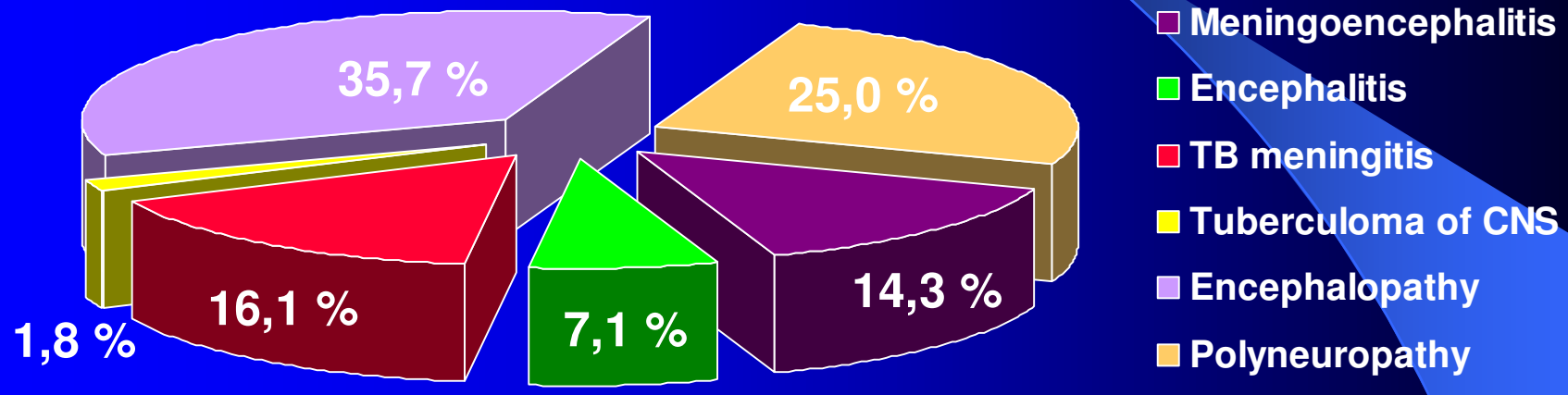
Jacob Levi, IAS 2015

SUMY – REGIONAL CENTER IN THE NORTH-EAST OF UKRAINE

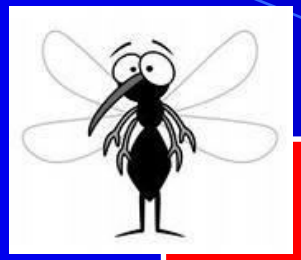


Thank you for your attention!

Structure of NS affections in PLHIV in Sumy region

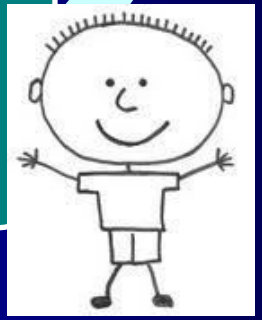


Key points: Life Cycle



Parasite enters promastigote phase in sand fly, multiplies and migrates to proboscis

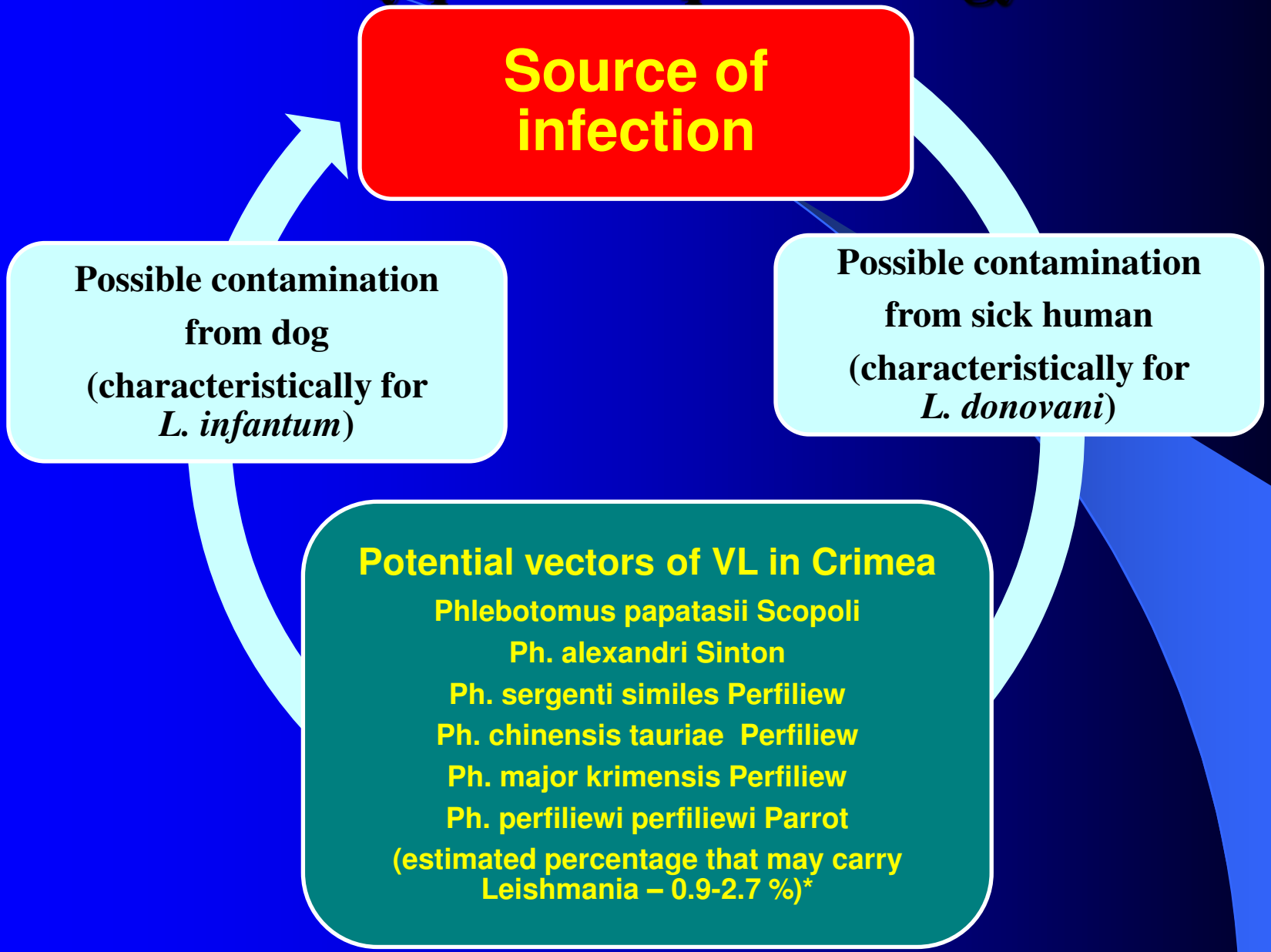
Sand fly bites human injecting the promastigote phase of Leishmania



Parasite enters the amastigote phase in human, multiplies and enters tissues and cells

Sand fly bites infected human or animal and acquires parasite

Key points: Epidemiology



* - data of Central Sanitary-Epidemiological Service in Ukraine, 2009

Key points: Treatment

Antileishmanial therapy		
Drug	**Characteristic**	**Disadvantages**
Antimonials	**First-line treatment for VL in many areas for more than 70 years**	**Toxicity: life-threatening, adverse side effects (cardiac arrhythmia, acute pancreatitis)** **Treatment failure till 60 %**
Conventional amphotericin B	**Has replaced antimonials as the first-line treatment for VL**	**Life-threatening adverse side effects (hypokalemia, nephrotoxicity and first-dose anaphylaxis)** **Costly** **Requires a complicated regimen**
Liposomal amphotericin B	**Considered by many experts as the best existing drug against VL** **Used as first-line treatment in Europe and the United States**	**High market price**
Miltefosine	**First effective oral drug for VL** **Safe and effective as sodium stibogluconate in HIV-negative patients** **Safer, but less effective, in HIV co-infected patients**	**High market price** **Teratogenic effect**

Fran3ois Chappuis, Shyam Sundar, Asrat Hailu et al. // Nature Rewiews/Microbiology. – 2007. – Vol 5. – p. 873-882