

Evaluation of Transmitted HIV Drug Resistance in Cambodia, Vietnam, Thailand, Burkina Faso, Cameroon, Ivory Coast & Senegal

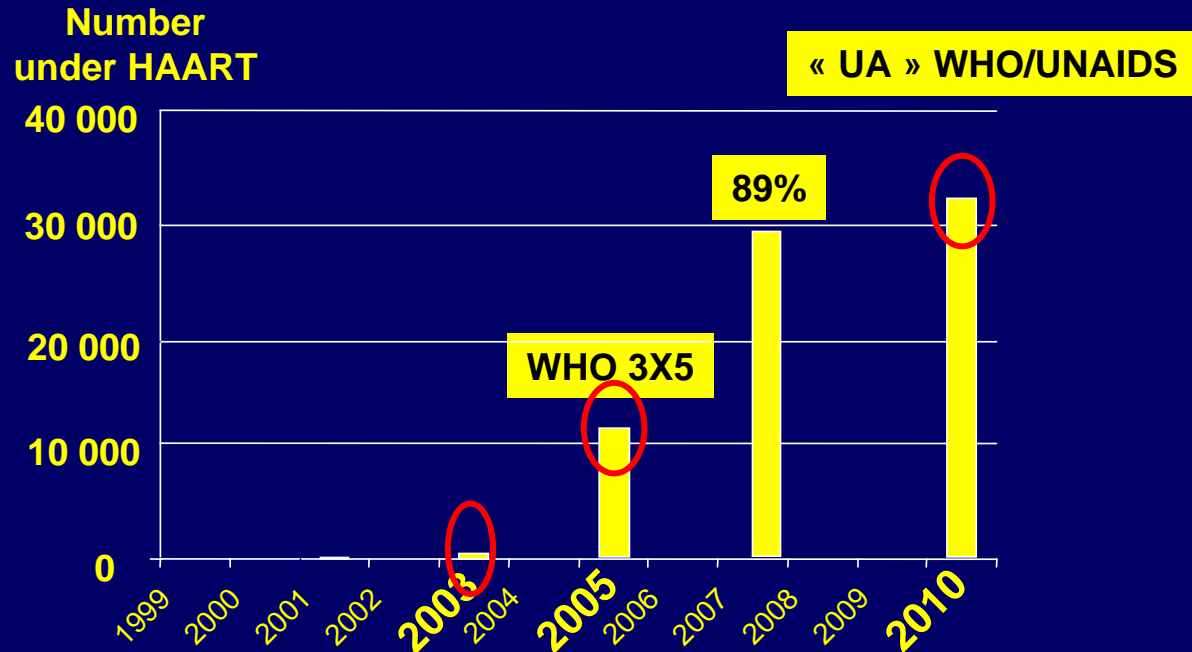
Project : ANRS12 134

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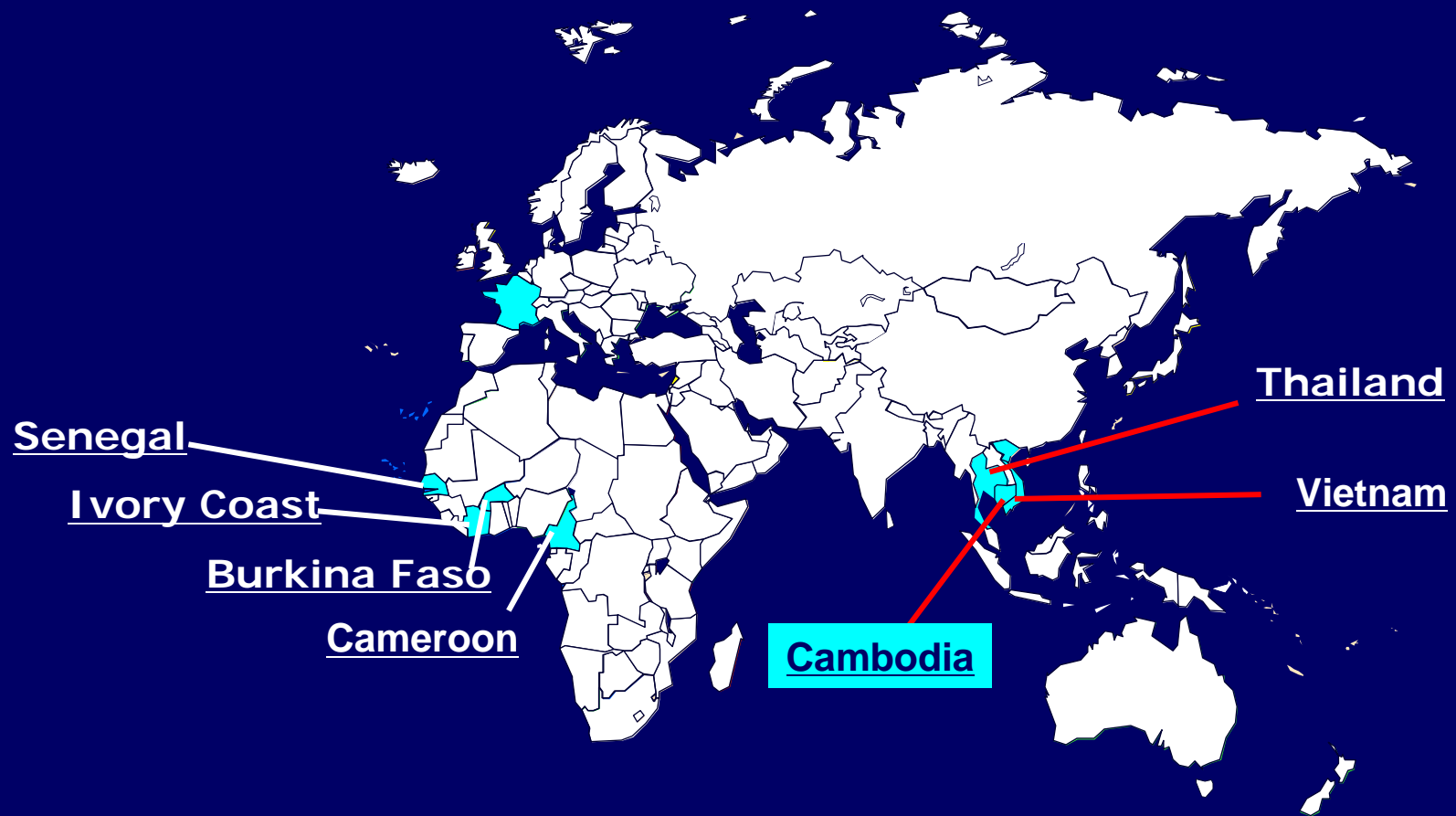
Situation in Cambodia



- Number of patients under HAART increase rapidly in Cambodia
- Need to control :
 - Treatment failure
 - Emergence of ARV resistances in patients under HAART
 - Transmission of HIV-1 drug-resistant viruses within the population

Objective of ANRS12 134

Evaluate the extent of transmitted HIV drug resistance in South East Asian and African countries



Inclusion

Country	Inclusion criteria
Cameroon	HIV+, 1 st Pregnancy, Age
Burkina Faso Thailand Ivory Coast	HIV+, 1 st Pregnancy, Age, CD4
Cambodia Senegal Viet Nam	Newly infected patients, Age, CD4

Approach in Cambodia

I
P
C

HIV positive ARV naïve patient

CD4 > 500/mm³, 18 - 30 years

Consent form, EDTA Blood collection



Control of CD4 cell count

HIV RNA viral load



Amplification (RT-PCR) of RT & PROT genes



Sequencing (Korea/France)



I
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Analysis and Detection of HIV MDR

Interpretation (ANRS algorithm)

Target n ≥ 47 (according to WHO HIVResNet protocol)

Results in Cambodia

Nb included patient N= 67 (November 06 - May 07)

Mean Age = 27.8

Sex ration F/M = 3.8

Mean CD4 = 603 [362 - 1330]

Mean RNA viral load = 4.1 Log₁₀ [2 – 5.9]

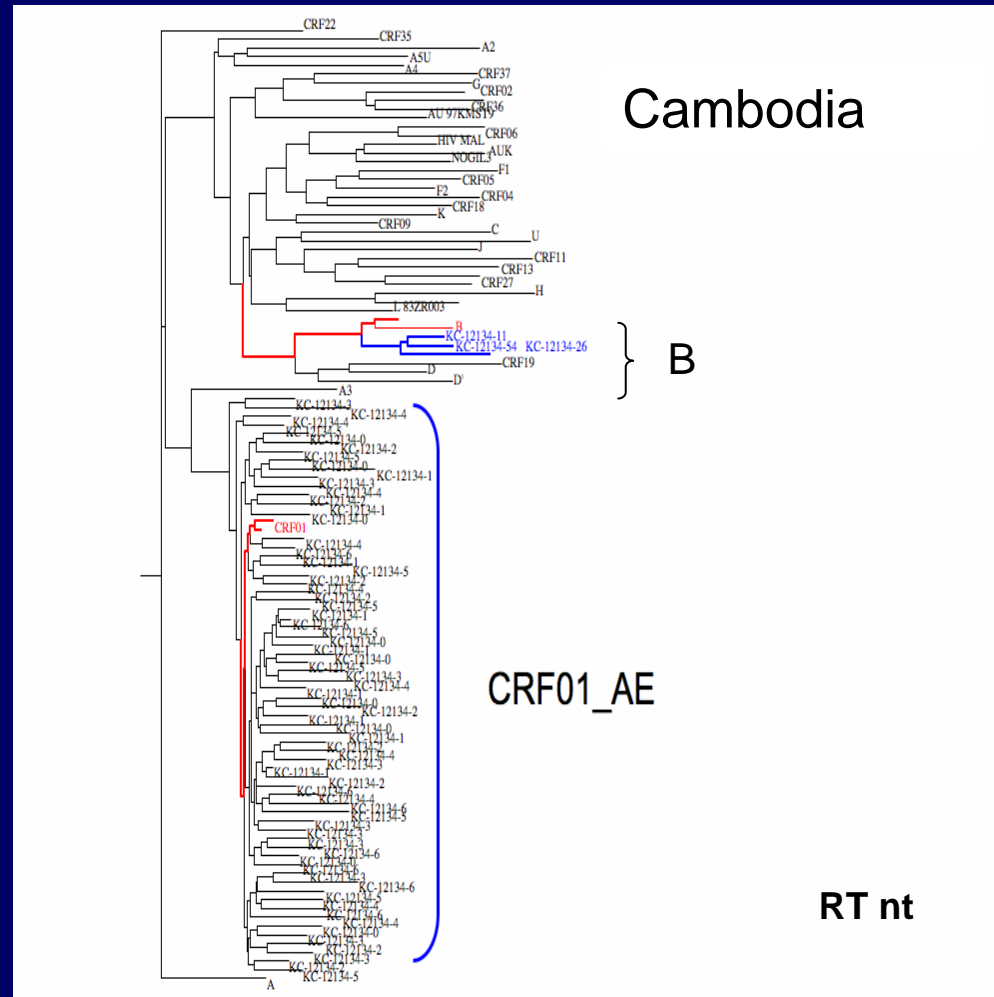
57/67 viruses already analyzed in both **RT** and **PROT** Genes

56/57 did not present any drug resistant Mutations

1/57 was resistant to EFV/NVP and 3TC/FTC (K101KQ, K103N and M184V)

Prevalence of resistance to RTIs and PIs = 1.8% < 5% (WHO)

Results in Cambodia



96% of HIV strains belong to CRF 01 AE subtype

Results in other countries

Country	Nb of included patients	Eligible patients (RT & PROT sequence)
Burkina Faso	55	51
Cambodia	67	57
Cameroon	58	52
Thailand	57	56
Viet Nam	75	63
Ivory Coast	38	26
Senegal	50	48

353

Results in other countries

ARV Drug Resistance mutations

Country	Sub Type	Gene	Mutation	ANRS
Cambodia	01 AE	RT	K101KQ K103N M184V	NVP EFV 3TC/FTC
Cameroon	02 AG	RT	K103N	NVP EFV
Viet Nam	01 AE	RT	G190A	NVP EFV
Viet Nam	01 AE	PROT	M46I	IDV
Senegal	Pending	RT	G190A	NVP EFV
Senegal	Pending	RT	T215ST	ZDV/d4T

6 Resistant viruses of 353 already analyzed (1.7%<5%)

Conclusion

- 1/57 (1.8%) resistance to ARV in Cambodia
- 6/353 (1.7%) ARV drug resistance in ANRS 12134
 - ARV drug resistance is 1.7% (< 5%, WHO)

Perspective

- Repeat the RT/PCR amplification for the 10 missing viruses (out of 67) in Cambodia
- Present result in 15th International Conference on AIDS and STIs in Africa (ICASA 2008), 3-7 December 2008, Dakar, Senegal

Collaborations

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