Clinical implications

HIV FORUM
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Unresolved

- ART increases or decreases the risk of MI?
  - INDIVIDUAL drugs, more than class effect?

- Surrogat markers, e.g. cIMT
  - Will they translate into clinical end-points, e.g. MI, **in HIV+?**

- Impact of inflammation unscertain
- The START study (When to initiate ART)
  - unique opportunity to explore why rates of SNAs are high in pt.s with high CD4 cell count
  - Might answer *if* we can reduce CVD in HIV+ with ART?

Management of CVD in HIV?

- Easy – and cheap – to calculate Framingham risk score or use the new D:A:D prediction model of CVD in HIV patients*

- Difficult – and potential expensive – to manage the results of such estimations

* Friis-Møller et al: European Journal of Cardiovascular Prevention and Rehabilitation, June 2010
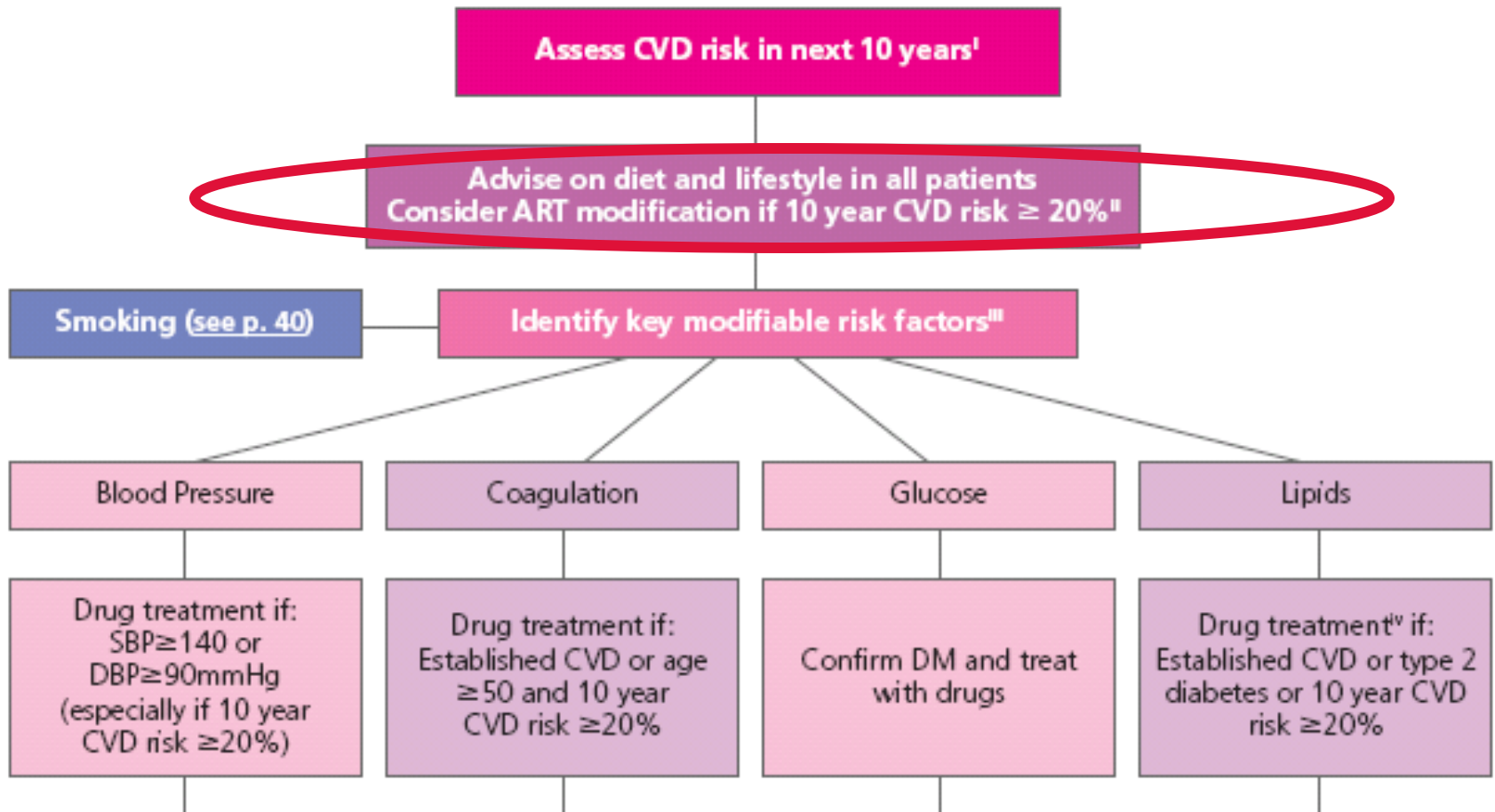
Management of CVD in HIV?

- Easy – and cheap – to calculate Framingham risk score or the new D:A:D prediction model of CVD in HIV patients*

- The available prediction models may underpredict the risk of MI in an important subset of HIV-infected populations – THE SMOKERS!
    - at least in D:A:D (what about other studies ?)
    - Most prediction models are derived in populations that are older than average age of the majority of HIV-infected persons

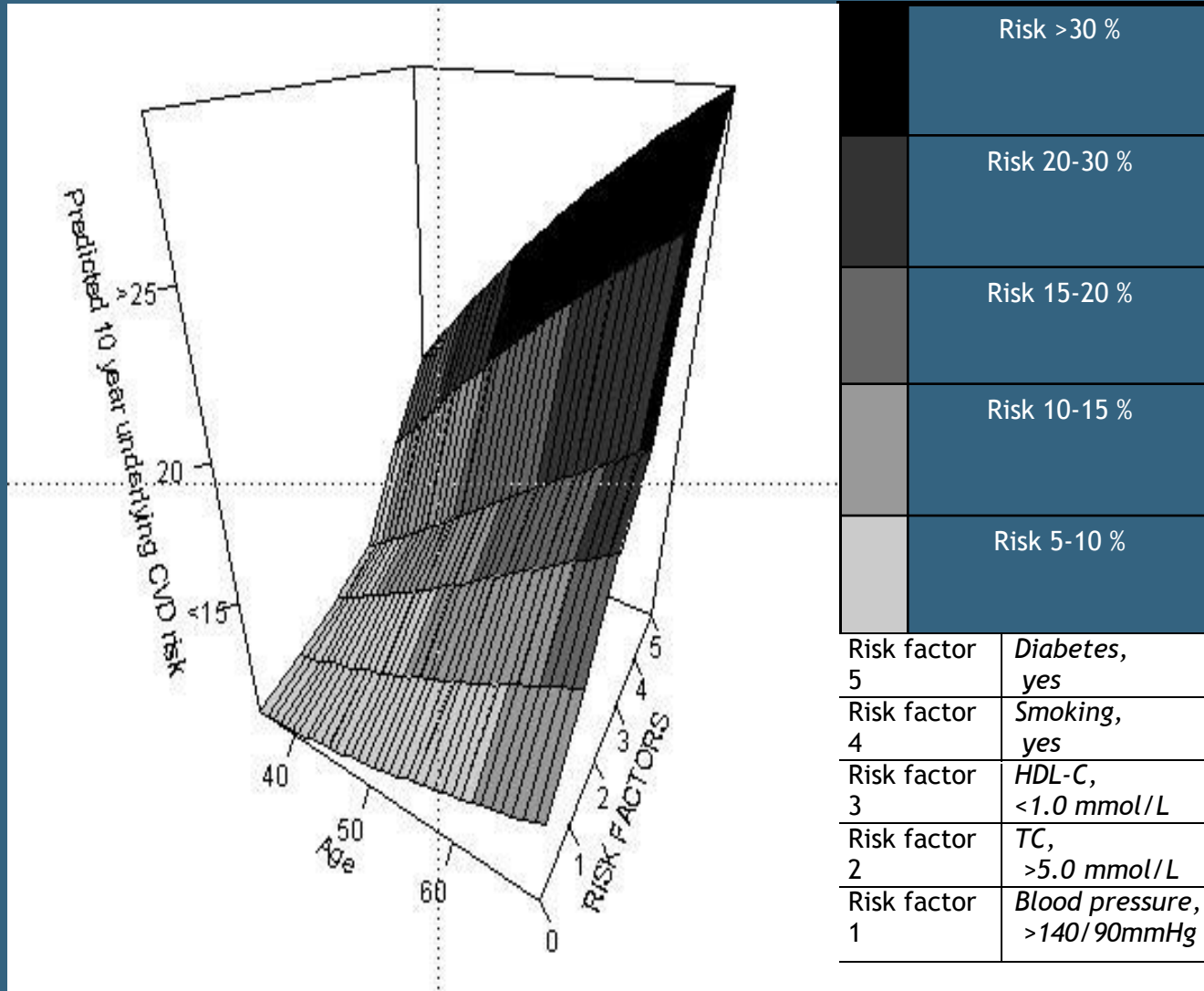- The D:A:D predictions models needs to be validated in other populations

Prevention of CVD

Principles: The intensity of efforts to prevent CVD depends on the underlying risk of CVD, which can be estimated[i]. The preventive efforts are diverse in nature and require involvement of a relevant specialists, in particular if the risk of CVD is high and always in patients with a history of CVD.

Assess CVD risk in next 10 years[i]

Advise on diet and lifestyle in all patients
Consider ART modification if 10 year CVD risk ≥ 20%[ii]

Identify key modifiable risk factors[iii]

Blood Pressure	Coagulation	Glucose	Lipids
Drug treatment if: SBP≥140 or DBP≥90mmHg (especially if 10 year CVD risk ≥20%)	Drug treatment if: Established CVD or age ≥50 and 10 year CVD risk ≥20%	Confirm DM and treat with drugs	Drug treatment[iv] if: Established CVD or type 2 diabetes or 10 year CVD risk ≥20%

Predicted future CVD risk

Risk >30 %	
Risk 20-30 %	
Risk 15-20 %	
Risk 10-15 %	
Risk 5-10 %	

Risk factor 5	*Diabetes, yes*
Risk factor 4	*Smoking, yes*
Risk factor 3	*HDL-C, <1.0 mmol/L*
Risk factor 2	*TC, >5.0 mmol/L*
Risk factor 1	*Blood pressure, >140/90mmHg*

Pearls or pitfalls?

- Increased understanding of CVD in HIV+
  - Although, few studies have assesed if biomarkers translate into clinical CVD events
- Recommended annual FRS* enable us to focus on intemediate/high risks patients
  - if underlying absolute risk is low, PI or ABC exposure adds little to this risk (opposite equally true)

* EACS Guidelines

- Tough to reduce the modifiable risk factors, e.g. smoking
- Does inflammation contributes in a similar manner/magnitude in HIV+ compared to HIV-
- Does drug induced dyslipedemia/DM/… confere a similar risk for CVD as in the general population
- Effectiveness of using risk scores in the primary prevention of CVD?
  - few trials in background population, none in HIV

Risk-Benefit Ratio
NNTTH?