



REVIEW OF CORONARY HEART DISEASE RISK IN HIV TREATMENT

THE POTENTIAL PATHOPHYSIOLOGY OF INCREASED RISK OF CARDIOVASCULAR DISEASE IN PATIENTS WITH HIV

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THE IMPACT OF KNOWN RISK FACTORS

- Prevalence of heavy smoking
- Recreational drug use
- Insulin resistance
- Co-infection with HCV or CMV
- Increase degree of comorbidities
- ¿Management of cardiovascular comorbidities, e.g., hypertension, cholesterol, etc?



DRUG TOXICITY

- Protease inhibitors and dyslipidemia
 - Class or individual drug effect?
- Abacavir?
- Drug induced lipodystrophy
- Enhanced oxidative stress/mitochondrial toxicity
- Other?



CARDIOVASCULAR TRIAD

- Hyperlipidemia, hypertension, endothelial damage and plaque formation
- Platelet activation, coagulation cascade and fibrinolysis
- Inflammation and immune activation



HIV DISEASE

- Chronic immune damage with compensatory activation of the innate immune system.
- Chronic viral inflammatory stimulus
- Loss of gut barrier immune function, intestinal bacterial translocation and chronic bacteremia
- HCV/CMV co-infection
- HIV related endothelial dysfunction



BIOMARKERS IN AN ERA OF LOW VIRAL LOADS

- Suspected biomarkers based on pathophysiology
 - D-Dimer, IL-6, C-Reactive Protein, etc.
 - Measurement of known risk factors and their effective management
- But, clinical measurements available in observational data (CD4, viral load, CD8) do not always overlap with these biomarkers which limits hypothesis testing



CONCLUSION

- Available biomarker data and understanding of theorized mechanisms for increased cardiovascular risk do not permit clear and unambiguous separation of the impact of HIV infection, traditional risk factors and drug toxicity in assessment of cardiovascular risk.