Comparison of Qrisk 2 and DAD cardiovascular risk scores in HIV positive patients with an identified ten year Framingham risk of ≥10%

18th Annual Conference of the British HIV Association, 18th-20th April, Birmingham

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BACKGROUND

Cardiovascular risk reduction is now an important element of care for those with HIV. Interventions such as statins are recommended for those with a risk of >20% and recent local guidance recommended against the use of Abacavir as a first line agent in those with >10% risk. Three risk calculators: Framingham, Qrisk2 and DAD (Data Collection on Adverse Effects of Anti-HIV Drugs) are commonly used. We used data from a cohort with a ten year Framingham cardiovascular of ≥10% to compare the three calculators. Our clinic currently uses the Framingham equation to calculate risk as it is the easiest to use, but a telephone survey of local HIV clinics showed that several other clinics use Qrisk2 or the DAD risk equations.

METHODS

- The HIV nursing team systematically collected data on cardiovascular risk factors, including the Framingham risk equation for all patients attending the clinic in 2010 and 2011.
- Five year cardiovascular risk was calculated using the DAD risk equation and 10 year risk was calculated using QRisk2 for all those with a 10 year Framingham risk of ≥10%.

ELIGIBILITY AND DEMOGRAPHICS

- We assessed 1153 eligible patients.
- Young people attending the transition HIV clinic, pregnant women, and those who had given birth within the past 3 months were excluded.
- Out of a cohort of1153 patients, 195 (16.9%) had a Framingham risk of ≥10%.
- 181/195 (92.8%) were male and 113 (57.9%) were White British. Median age was 69.5.

RESULTS

Amongst patients with a Framingham risk of ≥10%:

- Median systolic blood pressure: 145.5mmHg.
- Median total cholesterol/ HDL ratio: 4.1.
- Antihypertensive treatment: 28 patients (14.4%)
- Diabetes mellitus: 25 patients (12.8%)
- Family history of ischemic heart disease: 58 patients (29.7%)
- Current smoker: 66 patients (33.8%)
- Chronic renal impairment: 10 patients (5.1%)
- Rheumatoid arthritis: 5 patients (2.6%)
- 124/195 (63.6%) had a 10 year QRisk2 score ≥10%.
- 23/195 (11.8%) had a 5 year DAD risk ≥10%.

Pie chart showing risk equation used by 22 London clinics

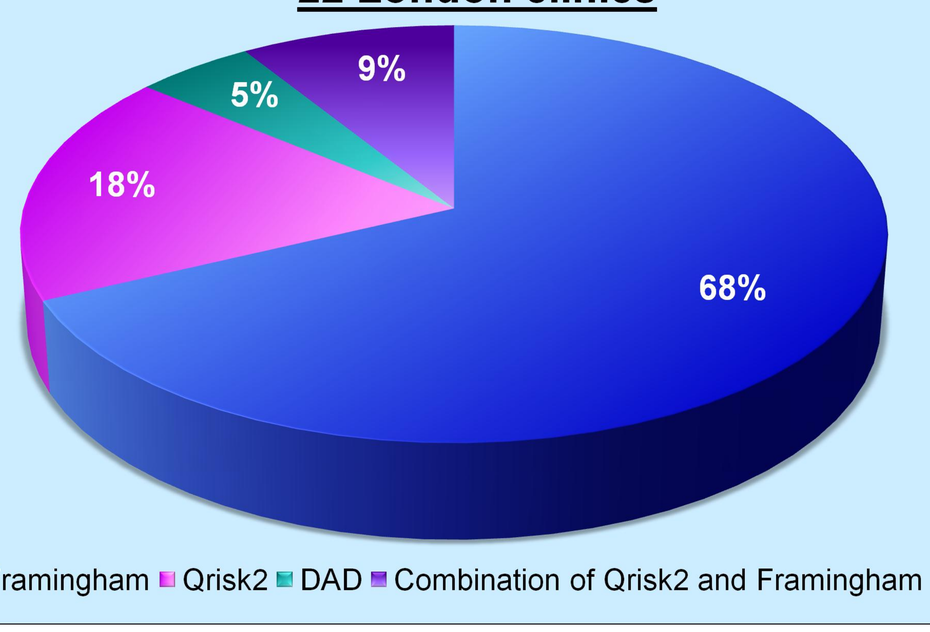

Table showing results:

	Framingham 10 year risk N=195/1153	QRISK2 10 year risk N=195	DAD 5 year risk N=195
Number of patients with a risk of ≥20.0%	25 (12.8%)	41 (21.0%)	4 (2.1%)
Number of patients with a risk of 10.0%- 19.9%	170 (87.2%)	83 (42.6%)	19 (9.7%)
Number of patients with a risk of 5.0% - 9.9%	0	50 (25.6%)	66 (33.8%)
Number of patients with a risk of < 5.0%	0	21 (10.8%)	106 (54.4%)

CONCLUSION

- The ten year QRisk 2 and five year DAD cardiovascular risk scores varied in HIV positive patients with a ten year Framingham risk of ≥10%.
- Variability of results from the different calculations may lead to patients who would be considered to be at high cardiovascular risk in one clinic being considered low risk at another.
- This could lead to variability in the strategies used in reducing risk as well as decisions as to potential choice of antiretroviral treatment.
- It is suggested that consensus is obtained on which risk calculation tool is used in HIV patients within our sector.
- This will ensure consistency and equity of management of risk, and choice of antiretroviral agents.

References:

1. BHIVA guidelines for the treatment of HIV-1 infected adults with antiretroviral therapy (2008).
2. London Consortium antiretroviral prescribing guidelines (2011) http://www.londonspecialisedcommissioning.nhs.uk/documents/371.pdf
3. BHIVA guidelines for the routine investigation and monitoring of adult HIV-1 infected individuals (2011).
4. http://www.qrisk.org/ (QRisk 2 calculator)
5. http://www.chip.dk/TOOLS/DADRiskEquations/tabid/437/Default.aspx (DAD risk calculator)

Acknowledgements: Gilead for funding a nursing post, Dr Katia Prime and Prof. Caroline Sabin for advice on study design and analysis.