Poster #480

PRESCRIPTION OF ASPIRIN FOR PRIMARY PREVENTION OF CARDIOVASCULAR DISEASE IN HIV-INFECTED PATIENTS

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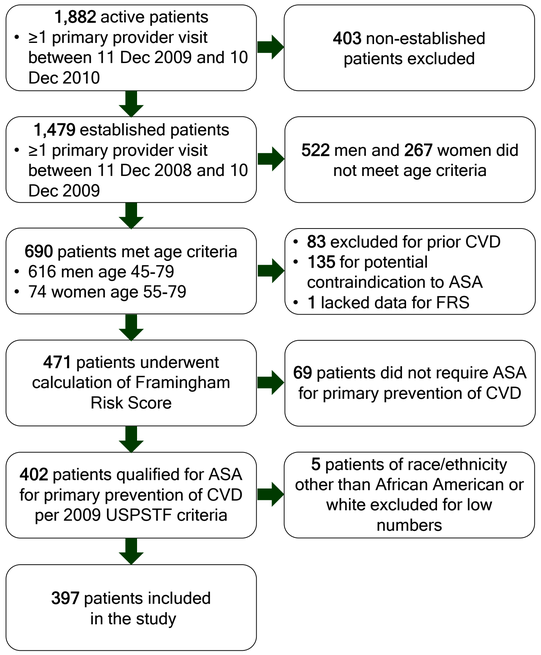
BACKGROUND

- Up to 15% of deaths among HIV-infected patients are attributed to cardiovascular disease (CVD).[1,2]
- HIV-positive patients are at increased risk of CVD events compared to HIV-negative persons.[3]
- 2009 United States Preventive Services Task Force (USPSTF) guidelines recommend aspirin (ASA) for primary prevention of myocardial infarction in men age 45-79 and of ischemic stroke in women age 55-79 when CVD benefit outweighs risk of gastrointestinal bleeding.[4]
- Data on HIV provider practices regarding ASA prescription for primary prevention of CVD is lacking.

METHODS

- Cross-sectional study within UAB 1917 HIV/AIDS Clinic Cohort, a prospective observational cohort with 1,882 active patients.
- Eligibility criteria (Figure 1):
  1. Active patients (≥1 primary HIV provider visit during study period 12/11/09-12/10/10) with at least 1 visit in preceding year (established patients).
  2. Men age 45-79 and women age 55-79 years.
  3. No prior history of CVD or contraindication to ASA
  4. Framingham 10-year coronary heart disease risk scores in men and stroke scores in women were used to determine ASA eligibility per 2009 USPSTF recommendations.[5,6]
- Descriptive statistics for patients qualifying for ASA by Framingham score, stratified by primary outcome of ASA prescription versus no ASA prescription.
- Univariate and multivariable (MV) analyses to evaluate association of sociodemographic, biomedical, and psychosocial characteristics with ASA prescription.

Figure 1: Flow diagram of participant selection



RESULTS

- Of 1882 active patients, 397 qualified for ASA for primary prevention of CVD per 2009 USPSTF guidelines. 66 (17%) were prescribed ASA (Table 1).
- Diabetes, hyperlipidemia, and current smoking were significantly associated with ASA prescription in MV analysis (Table 2).
- In MV analysis evaluating CVD-related co-morbidities as a count measure, each additional co-morbidity increased odds of ASA prescription by 2.13 (95% CI 1.51-2.99; p<0.01) (Figure 2).

Table 1. Characteristics of 397 HIV-infected patients meeting criteria for primary prevention of CVD with ASA per the 2009 USPSTF recommendations

Characteristic Mean ± SD or N (column %)	Overall (N=397)	ASA (n=66)	No ASA (n=331)	P-value
Age, years	52.2 5.9	53.4 6.0	52.0 5.9	0.09
Male	372 (94)	60 (91)	312 (94)	0.31
African-American	143 (36)	18 (27)	125 (38)	0.11
Insured (private/public)	334 (84)	55 (83)	279 (84)	0.85
CD4+ count <200 cells/mm^3	41 (10)	2 (3)	39 (12)	**0.04***
HIV-RNA <50 copies/mL	238 (60)	36 (55)	202 (61)	0.33
≥ 1 missed visit in 12 months	152 (38)	19 (29)	133 (40)	0.08
On ARVs	382 (96)	62 (94)	320 (97)	0.29
Adherent to ARVs[1]	337 (85)	59 (89)	278 (84)	0.21
Obesity (BMI ≥30 kg/m^2)[1]	80 (20)	14 (22)	66 (20)	0.73
Framingham Risk Score ≥10%	200 (50)	43 (65)	157(47)	**0.01***
Hypertension	245 (62)	48 (73)	197(60)	**0.05***
Diabetes mellitus	62 (16)	21 (32)	41 (12)	**<0.001***
Hyperlipidemia	249 (63)	55(83)	194(59)	**<0.001***
Current smoker	156 (39)	29(44)	127(39)	0.55
Current substance use[1]	27 (8)	1 (2)	26 (9)	0.08
Current depression[1]	53 (14)	9(14)	44 (14)	0.98
Time in care, median years (Q1-Q3)	7.8 (3.8-11.2)	10.2 (5.0-11.5)	7.3 (3.6-11.2)	**0.02***

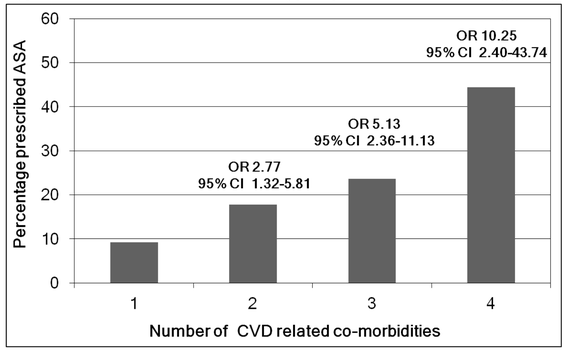
*Statistically significant at 0.05 level. [1]Missing data: HIV risk factor=1, ARV adherence=55, BMI=3, Current substance use=35, Current depression=27.

Table 2. Univariate and multivariable logistic regression analyses evaluating characteristics associated with ASA prescription

Characteristic	Unadjusted OR (95%CI) for ASA Prescription	Adjusted OR (95%CI) for ASA Prescription
Age (per year)	1.04 (0.99-1.08)	1.02 (0.97-1.08)
Male	0.61 (0.23-1.59)	0.58 (0.18-1.86)
African American	0.62 (0.34-1.11)	0.55 (0.27-1.11)
CD4 count <200 cells/mm^3	**0.22 (0.05-0.96)***	0.34 (0.08-1.51)
Body mass index ≥30 kg/m^2	1.12 (0.58-2.15)	0.94 (0.45-1.95)
Hypertension	**1.81 (1.01-3.25)***	1.39 (0.72-2.71)
Diabetes mellitus	**3.30 (1.79-6.09)***	**2.60 (1.28-5.27)***
Hyperlipidemia	**3.53 (1.78-6.99)***	**3.42 (1.55-7.56)***
Current smoking	1.26 (0.74-2.15)	**1.87 (1.03-3.41)***
Length of time in care (per year)	**1.10 (1.02-1.18)***	1.03 (0.95-1.12)

*Statistically significant

Figure 2. Increasing odds of ASA prescription with increasing CVD-related co-morbidity count (co-morbidities included: hypertension, diabetes mellitus, hyperlipidemia and smoking)*



*Referent 0-1 co-morbidities

CONCLUSIONS

- ASA for primary prevention of CVD is underprescribed in our cohort, with <20% of patients who met USPSTF criteria prescribed ASA.
- Of concern, even among intermediate to high risk patients (FRS ≥10%), ASA prescription was low (22%).
- While traditional CVD risk factors were predictors of ASA prescription, it appears the presence of multiple co-morbidities is often required to trigger prescription.
- Strategies to encourage appropriate CVD risk assessment and interventions in the HIV primary care setting are urgently needed.

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