| **Harm category** | **Study author, year**  **Study design** | **Intervention** | **Adverse events** |
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| Multiple | Arribas 2017115  RCT | A. TAF + EVG/COBI/FTC (n=866) B. TDF-FTC + EVG/COBI (n=867) | A vs. B Withdrawal due to adverse events: 1.3% (11/866) vs. 3.3% (29/867); RR, 0.38 (95% CI, 019 to 0.76) Withdrawal due to renal adverse event: 0% (0/866) vs. 1.4% (12/867); RR, 0.04 (95% CI, 0.00 to 0.68) Serious adverse events: 14.0% (121/866) vs. 14.3% (124/867); RR, 0.98 (95% CI, 0.77 to 1.23) Grade 3 or 4 laboratory abnormalities: 32.9% (285/866) vs. 30.8% (267/867); RR, 1.07 (95% CI, 0.93 to 1.23)  Serious cardiovascular or cerebrovascular event: 0.6% (5/866) vs. 0.7% (6/867); RR, 0.83 (95% CI, 0.26 to 2.72) Fracture: 0.7% (6/866) vs. 1.8% (16/867); RR, 0.38 (95% CI, 0.15 to 0.95) Elevated creatine kinase: 11.5% (100/866) vs. 10.1% (88/867); RR, 1.14 (95% CI, 0.87 to 1.49) Decrease of ≥25% from baseline in creatinine clearance: 17.6% (152/866) vs. 33.4% (290/867); RR, 0.52 (95% CI, 0.44 to 0.62)  Clinically significant proteinuria (urine protein to creatinine ratio >200 mg/g): 2.5% (22/866) vs. 4.6% (40/867); RR, 0.55 (95% CI, 0.33 to 0.92) Proximal renal tubulopathy: 0% (0/866) vs. 0.8% (7/867); RR, 0.07 (95% CI, 0.00 to 1.17) |
| Multiple | Rockstroh 2013116 STARTMRK Study  RCT | A. RAL+ TDF-FTC (n=281) B. EFV + TDF-FTC (n=282) | A vs. B Mortality: 1.8% (5/281) vs. 1.8% (5/282); RR, 1.00 (95% CI, 0.29 to 3.43) Withdrawal due to adverse events: 5% (14/281) vs. 9.9% (28/282); RR, 0.50 (95% CI, 0.27 to 0.93) Serious adverse events: 20.3% (57/281) vs. 20.2% (57/282); RR, 1.00 (95% CI, 0.72 to 1.39) Myocardial infarction: 0% (0/281) vs 0.4% (1/282); RR, 0.33 (95% CI, 0.01 to 8.18) Suicidal ideation or attempt: 1.8% (5/281) vs 0.4% (1/282); RR, 5.02 (95% CI, 0.59 to 43) |
| Mortality | Kowalska, 2012121  EuroSIDA Study  Prospective cohort, single arm | cART | Mortality overall  1,297 patients died during 70,613 person-years of followup; crude incidence rate, 18.3/1,000 person-years followup (95% CI, 17.4 to 19.4)  Specific causes of death  AIDS-related: 32% (413/1,297); crude incidence rate, 5.85/1,000 person-years followup (95% CI, 5.28 to 6.14)  Non–AIDS-related: 68% (884/1,297); crude incidence rate, 12.5/1,000 person-years followup (95% CI, 11.7 to 13.3)  Non–AIDS-related infection: 9% (121/1,297)  Liver-related: 14% (182/1,297)  Non–AIDS-defining malignancies: 10% (125/1,297)  Cardiovascular disease: 9% (122/1,297)  Violent: 7% (90/1,297)  Other: 7% (90/1,297)  Unknown: 12% (153/1,297)  After adjustment for confounding variables, there was a significant decrease in the rate of all cause and AIDS-related death between 2 and 3.99 years and longer exposure time, but no significant difference in the rate of non–AIDS-related deaths.  When time on cART was fitted as a continuous variable from 2 years of exposure onwards: 5% decrease in the risk of all cause death (IRR, 0.95 [95% CI, 0.92 to 0.97]); 14% decrease in the risk of AIDS-related death (IRR, 0.86 [95% CI, 0.81 to 0.91])  Non–AIDS-related: IRR, 0.97 (95% CI, 0.95 to 1.00)  Non–AIDS-related infection: IRR, 0.97 (95% CI, 0.90 to 1.05)  Liver-related: IRR, 0.94 (95% CI, 0.89 to 1.00)  Non–AIDS-defining malignancies: IRR, 1.07 (95% CI, 1.00 to 1.04)  Cardiovascular disease: IRR, 0.99 (95% CI, 0.93 to 1.06)  Violent: IRR, 0.90 (95% CI, 0.81 to 0.99)  Other: IRR, 1.01 (95% CI, 0.94 to 1.09)  Unknown: IRR, 0.94 (95% CI, 0.86 to 1.01) |
| Myocardial Infarction | Sabin, 2016102 D:A:D Study  Prospective cohort | ABC vs. not on ABC | After adjustment for potential confounders, current ABC use was associated with a 98% increase in MI rate (aRR, 1.98 [95% CI, 1.72 to 2.29]), with no difference in the pre-2008 (aRR, 1.97 [95% CI, 1.68 to 2.33]) and post-2008 (aRR, 1.97 [95% CI, 1.43 to 2.72]) periods; p=0.74 for interaction  MI events:  Overall: 941/367,559 person-years (rate, 0.26/100 person-years [95% CI, 0.24 to 0.27])  Currently on ABC: 341/71,971 person-years (rate, 0.47/100 person-years [95% CI, 0.42 to 0.52])  Currently not on ABC: 600/295,642 person-years (rate 0.20/100 person-years [95% CI, 0.19 to 0.22])  Stratified by calendar period (D:A:D publication from 2008 showed 90% increase in risk of MI for those on ABC):  Pre-March 2008:  Currently on ABC: 247/40,833 person-years (rate, 0.61/100 person-years [95% CI, 0.53 to 0.68])  Currently not on ABC: 425/169,417 person-years (rate, 0.25/100 person-years [95% CI, 0.23 to 0.28])  Post-March 2008  Currently on ABC: 94/31,084 person-years (rate, 0.30/100 person-years [95% CI, 0.24 to 0.36])  Currently not on ABC: 175/126,225 person-years (rate, 0.14/100 person-years [95% CI, 0.12 to 0.16])  Results unchanged after stratifying by Framingham risk group or after further adjusting for factors potentially on the causal pathway, including renal function, dyslipidemia, and hypertension |
| Myocardial Infarction | Monforte, 2013104  D:A:D Study  Prospective cohort | ATV, boosted or unboosted by RTV | MI  Overall events: 844/49,734 (incidence, 0.28/100 person-years followup [95% CI, 0.26 to 0.30])  >3 years exposure to ATV: 0.20/100 person-years followup (95% CI, 0.12 to 0.32)  No exposure to ATV: 0.28/100 person-years followup (95% CI, 0.26 to 0.30)  No association between cumulative exposure to ATV and MI risk: univariate relative rate/year, 0.96 (95% CI, 0.88 to 1.04); multivariable relative rate/year, 0.95 (95% CI, 0.87 to 1.05)  Stroke  Overall events: 523/49,734 (incidence, 0.18/100 person-years followup [95% CI, 0.16 to 0.19])  >3 years exposure to ATV: 0.17/100 person-years followup (95% CI, 0.10 to 0.27)  No exposure to ATV: 0.17/100 person-years followup (95% CI, 0.16 to 0.19)  No association between cumulative exposure to ATV and stroke risk: univariate relative rate/year, 1.02 (95% CI, 0.98 to 1.05); multivariable relative rate/year, 0.95 (95% CI, 0.87 to 1.05) |
| Myocardial Infarction | Desai 2015103  Retrospective cohort | Current ART exposure vs. no exposure | Cardiovascular event (MI, stroke, or cardiovascular procedure) ABC: OR, 1.50 (95% CI, 1.26 to 1.79) EFV: OR, 1.40 (95% CI, 1.19 to 1.66) 3TC: OR, 1.53 (95% CI, 1.34 to 1.75) NVP: OR, 0.91 (95% CI, 0.70 to 1.18) D4L: OR, 1.14 (95% CI, 0.95 to 1.37) Tenofovir: OR, 1.10 (95% CI, 0.93 to 1.30) ZDV: OR, 1.41 (95% CI, 1.22 to 1.63)  *Other drugs and ART combinations had <2 years mean followup* |
| Cancer/ Liver Disease | Bruyand, 2015109  D:A:D Study  Prospective cohort | cART vs. PIs vs. NNRTIs | Cancer, overall events: 1,832/41,762 (incidence rate, 0.76/100 person-years [95% CI, 0.72 to 0.79])  Association between cART use (per year longer exposure) and cancer  AIDS-defining cancer (n=718):  Any cART: aRR, 0.88 (95% CI, 0.85 to 0.92)  PI-based ART: aRR, 0.96 (95% CI, 0.92 to 1.00)  NNRTI-based ART: aRR, 0.86 (95% CI, 0.81 to 0.91)  Kaposi Sarcoma (n=341):  Any cART: aRR, 0.84 (95% CI, 0.78 to 0.89)  PI-based ART: aRR, 0.93 (95% CI, 0.87 to 1.00)  NNRTI-based ART: aRR, 0.81 (95% CI, 0.74 to 0.90)  Non-Hodgkin Lymphoma (n=321):  Any cART: aRR, 0.90 (95% CI, 0.85 to 0.95)  PI-based ART: aRR, 0.98 (95% CI, 0.93 to 1.04)  NNRTI-based ART: aRR, 0.87 (95% CI, 0.80 to 0.94)  Non–AIDS-defining cancer (n=1,114):  Any cART: aRR, 1.02 (95% CI, 1.00 to 1.03)  PI-based ART: aRR, 1.03 (95% CI, 1.01 to 1.05)  NNRTI-based ART: aRR, 1.00 (95% CI, 0.98 to 1.02)  Lung cancer (n=195):  Any cART: aRR, 0.99 (95% CI, 0.95 to 1.03)  PI-based ART: aRR, 1.01 (95% CI, 0.97 to 1.05)  NNRTI-based ART: aRR, 0.97 (95% CI, 0.93 to 1.02)  Anal cancer (n=131):  Any cART: aRR, 1.06 (95% CI, 1.01 to 1.11)  PI-based ART: aRR, 1.08 (95% CI, 1.04 to 1.13)  NNRTI-based ART: aRR, 0.97 (95% CI, 0.97 to 1.09)  Hodgkin Lymphoma (n=107):  Any cART: aRR, 0.91 (95% CI, 0.85 to 0.97)  PI-based ART: aRR, 0.99 (95% CI, 0.92 to 1.06)  NNRTI-based ART: aRR, 0.90 (95% CI, 0.82 to 0.99)  Head and neck cancer (n=97):  Any cART: aRR, 1.01 (95% CI, 0.96 to 1.07)  PI-based ART: aRR, 1.01 (95% CI, 0.96 to 1.07)  NNRTI-based ART: aRR, 1.03 (95% CI, 0.97 to 1.10) |
| Cancer/ Liver Disease | Ryom, 2016110 D:A:D Study  Prospective cohort | cART | End-stage liver disease/hepatocellular carcinoma  Overall, median followup of 8.4 years: 319 events (incidence rate, 1.01/1,000 person-years of followup [95% CI, 0.90 to 1.12]), with a 1-year mortality rate of 62.6%  Cumulative (per 5 years) exposure by drug, adjusted for potential confounders:  D4L: relative rate, 1.46 (95% CI, 1.20 to 1.77)  ddl: relative rate, 1.32 (95% CI, 1.07 to 1.63)  Tenofovir: relative rate, 1.46 (95% CI, 1.11 to 1.93)  FPV: relative rate, 1.47 (95% CI, 1.01 to 2.15)  FTC: relative rate, 0.51 (95% CI, 0.32 to 0.83)  NVP: relative rate, 0.76 (95% CI, 0.58 to 0.98)  Stratified by viral hepatitis status, per 1,000 person-years of followup:  HCV positive: 229 events (incidence rate, 3.59 [95% CI, 3.13 to 4.06])  HBV positive active: 59 events (incidence rate, 4.57 [95% CI, 3.40 to 5.74]) |
| Cancer/ Liver Disease | Kovari, 2013117 D:A:D Study  Prospective cohort | cART | Liver-related deaths: 12 events (incidence rate, 0.10/1,000 person-years [95% CI, 0.05 to 0.18]); 7 events due to severe alcohol and 5 events due to established ART-related toxicity  Rate of ART-related deaths in treatment-experienced persons: rate, 0.04 with 5 events/1,000 person-years (95% CI, 0.01 to 0.10) |
| Kidney Disease | Ryom, 2013123 D:A:D Study  Prospective cohort | cART | Renal impairment, median followup duration of 4.5 years:  eGFR ≤70 mL/min: 2.1% (468 persons); incidence rate, 4.78/1,000 person-years of followup (95% CI, 4.35 to 5.22)  Chronic kidney disease: 0.6% (131 persons); incidence rate, 1.33 cases/1,000 person-years of followup (95% CI, 1.10 to 1.56)  Significant predictors of a confirmed eGFR ≤70 mL/min:  Cumulative tenofovir use: aIRR, 1.18/year (95% CI, 1.12 to 1.25)  Cumulative ritonavir-boosted atazanavir use: aIRR, 1.19/year (95% CI, 1.09 to 1.32)  Cumulative ritonavir-boosted lopinavir use: aIRR, 1.11/year (95% CI, 1.05 to 1.07)  Significant predictors of chronic kidney disease:  Cumulative ritonavir-boosted lopinavir use: aIRR, 1.22/year (95% CI, 1.16 to 1.28)  A current eGFR of 60 to 70 mL/min caused significantly higher rates of discontinuation of tenofovir compared with a current eGFR of ≥90 mL/min: aIRR, 1.72 (95% CI, 1.38 to 2.14)  After discontinuation, the treatment-associated incidence rates decreased |
| Kidney Disease | Mocroft, 2016111 D:A:D Study  Prospective cohort | cART (TDF, ATV/r, LPV/r, other PI/r, ABC) | Chronic kidney disease, median followup of 7.2 years: 1% (285/23,905); incidence, 1.76 per 1,000 person-years of followup (95% CI, 1.56 to 1.97)  Significant predictors of chronic kidney disease, after adjustment:  Yearly TDF use: aIRR, 1.14 (95% CI, 1.10 to 1.19)  Yearly ATV/r use: aIRR, 1.20 (95% CI, 1.13 to 1.26)  Yearly LPV/r use: aIRR, 1.11 (95% CI, 1.06 to 1.16)  Nonsignificant:  Yearly other PI/r: aIRR, 1.02 (95% CI, 0.97 to 1.08)  Yearly ABC: aIRR, 1.03 (95% CI, 0.99 to 1.08) |
| Kidney Disease | Laprise 2013118  Retrospective cohort | A. TDF exposure  B. Nonexposure  Other ART comparisons: NRTI, NNRTI, PI exposure vs. nonexposure | A vs. B Reduced kidney function (eGFR <90 mL/min/1.73 m2): adjusted HR (time-dependent Cox model), 1.63 (95% CI, 1.26 to 2.10); adjusted OR (generalized estimating equation model), 1.63 (95% CI, 1.48 to 1.79) Loss in eGFR, 1 year: −3.05 (95% CI, −5.55 to −0.54); 2 year: −4.05 (95% CI, −6.03 to −2.08); 3 year: −2.42 (95% CI, −4.57 to −0.28); 4 year: −3.09 (95% CI, −6.98 to 0.80); 5 year: −0.12 (95% CI, −3.59 to 3.35); ≥6 year: 0.32 (95% CI, −4.55 to 5.19)  Other comparisons NRTI exposure vs. nonexposure, reduced kidney function (eGFR <90 mL/min/1.73 m2): adjusted HR (time-dependent Cox model), 0.39 (95% CI, 0.18 to 0.86); adjusted OR (generalized estimating equation model), 0.78 (95% CI, 0.58 to 1.04)  NNRTI exposure vs. nonexposure, reduced kidney function (eGFR <90 mL/min/1.73 m2): adjusted HR (time-dependent Cox model), 0.97 (95% CI, 0.69 to 1.37); adjusted OR (generalized estimating equation model), 0.98 (95% CI, 0.87 to 1.11) PI exposure vs. nonexposure, reduced kidney function (eGFR <90 mL/min/1.73 m2): adjusted HR (time-dependent Cox model), 1.46 (95% CI, 1.07 to 2.01); adjusted OR (generalized estimating equation model), 1.82 (95% CI, 1.61 to 2.05) |
| Kidney Disease | Nkhoma 2016b120 (see also **Fracture**)  Retrospective cohort | A. EVF + TDF-FTC B. RPV + TDF-FTC  C. EVG/COBI + TDF-FTC | All patients (regardless of intervention): Renal adverse events: 4.5% (5,704/126,168); exposure-adjusted incidence rate per 1,000 person-years, 18.0 (95% CI, 17.5 to 18.4)  A vs. B vs. C: Renal adverse events, IR: 9.7 (95% CI, 8.5 to 11.0) vs. 10.5 (95% CI, 6.7 to 16.4) vs. 13.6 (95% CI, 8.1 to 23.0); adjusted IRD, A vs. B: -1.05 (95% CI, -2.90 to 0.53); IRD, A vs. C: -1.78 (95% CI, -2.19 to -1.50) |
| Kidney Disease | Scherzer 2012119  Retrospective cohort | A. Tenofovir exposure (n=4,303) B. Nonexposure (n=6,538) | A vs. B Cumulative exposure to tenofovir, per year Chronic kidney disease (eGFR <60 mL/min/1.73m2): aHR, 1.36 (95% CI, 1.22 to 1.51) Rapid decline in kidney function (3 mL/min/1.73m2 annual decline): aHR, 1.16 (95% CI, 1.09 to 1.23) Proteinuria (2 consecutive urine dipstick measurements 30 mg/dL): aHR, 1.24 (95% CI, 1.17 to 1.32)  Ever exposure to tenofovir Chronic kidney disease: aHR, 1.88 (95% CI, 1.50 to 2.36) Rapid decline in kidney function: aHR, 1.50 (95% CI, 1.36 to 1.67) Proteinuria: aHR, 1.51 (95% CI, 1.36 to 1.66)  Cumulative risk according to duration of tenofovir exposure Proteinuria, <0.5 years: 1.72 (95% CI, 1.50 to 1.96); 0.5 to 1 years: 1.59 (95% CI, 1.36 to 1.86); 1 to 3 years: 1.68 (95% CI, 1.44 to 1.95); >3 years: 2.17 (95% CI, 1.48 to 3.20)  Rapid decline in kidney function, <0.5 years: 1.35 (95% CI, 1.16 to 1.56); 0.5 to 1 years: 1.59 (95% CI, 1.38 to 1.84); 1 to 3 years: 1.23 (95% CI, 1.07 to 1.42); >3 years: 1.04 (95% CI, 0.66 to 1.63) Chronic kidney disease, <0.5 years: 1.30 (95% CI, 0.91 to 1.86); 0.5 to 1 years: 1.85 (95% CI, 1.35 to 2.53); 1 to 3 years: 1.69 (95% CI, 1.26 to 2.27); >3 years: 1.56 (95% CI, 0.73 to 3.36)  No evidence of interaction according to patient demographic and clinical characteristics except viral load <100,000 vs. >100,000 copies/mL (p=0.01) |
| Suicidality | Chang 2018108  Prospective cohort | A. EFV, any use (n=305) B. NVP only (n=389) | A vs. B Suicidal ideation: 6.2% (19/305) vs. 12.1% (47/389); adjusted HR, 0.47 (95% CI, 0.21 to 1.07); adjusted risk difference at visit, -0.91 (95% CI, -2.1 to 0.3) Depression: 20.0% (61/305) vs. 32.1% (125/389); adjusted HR, 0.56 (95% CI, 0.35 to 0.89); adjusted risk difference at visit, -3.1 (95% CI, -5.8 to -0.4) |
| Suicidality | Smith, 2014107 D:A:D Study (abstract only)  Prospective cohort | cART, including EFV- containing regimens vs. other | Overall deaths: 4,420 over 371,333 person-years; rate, 11.9 per 1,000 person-years (95% CI, 11.6 to 12.3)  Deaths with an underlying cause of suicide or psychiatric disease:  Overall: 193 deaths/371,333 person-years; rate, 0.52 per 1,000 person years (95% CI, 0.45 to 0.59)  EFV-containing regimen: 24 deaths/78,580 person-years; aRR, 0.59 (95% CI, 0.33 to 1.06)  Other NNRTI-containing regimen: 31 deaths/64,288 person-years; aRR, 0.93 (95% CI, 0.53 to 1.62)  Other ART: 66 deaths/157,664 person-years; aRR, 0.81 (95% CI, 0.49 to 1.32)  No ART, naive: 21 deaths/40,454 person-years (reference)  No ART, experienced: 51 deaths/30,348 person-years; aRR, 3.24 (95% CI, 1.95 to 5.38)  Deaths with suicide or psychiatric disease "mentioned anywhere":  Overall: 482 deaths/371,333 person-years; rate, 1.30 per 1,000-person years (95% CI, 1.18 to 1.41)  Efavirenz-containing regimen: 60 deaths/78,580 person-years; aRR, 0.42 (95% CI, 0.28 to 0.63)  Other NNRTI-containing regimen: 72 deaths/64,288 person-years; aRR, 0.68 (95% CI, 0.46 to 1.00)  Other ART: 162 deaths/157,664 person-years; aRR, 0.52 (95% CI, 0.37 to 0.73)  No ART, naive: 62 deaths/40,454 person-years (reference)  No ART, experienced: 126 deaths/30,348 person-years; aRR, 2.29 (95% CI, 1.63 to 3.21) |
| Suicidality | Nkhoma, 2016106  Retrospective cohort | cART, including:  A. EFV-containing regimens (n=11,187 commercial database)  B. EFV-containing regimens (n=2,224 Medicaid database)  C. EFV-free regimens (n=8,796 commercial database  D. EFV-free regimens (n=2,930 Medicaid database) | A vs. B vs. C vs. D  Suicidality  Events, n: 0.38% (42/11,187) vs. 2.0% (45/2,224) vs. 0.33% (29/8,796) vs. 2.5% (74/2,930)  Unadjusted incidence rate per 1,000 person-years: 3.3 (95% CI, 2.4 to 4.4) vs. 25.7 (95% CI, 18.8 to 34.4) vs. 4.0 (95% CI, 2.7 to 5.8) vs. 40.6 (95% CI, 31.9 to 50.9)  Propensity score adjusted HR, efavirenz use vs. EFV-free regimen:  Commercial: aHR, 1.029 (95% CI, 0.636 to 1.665)  Medicaid: aHR, 0.902 (95% CI, 0.617 to 1.319)  Propensity score adjusted and inverse probability of censoring HR, EFV use vs. EFV-free regimen:  Commercial: aHR, 1.122 (95% CI, 0.686 to 1.836)  Medicaid: aHR, 0.935 (95% CI, 0.626 to 1.395)  Suicide attempt  Events: 7 vs. 1 vs. 1 vs. 12  Propensity score adjusted HR, EFV use vs. EFV-free regimen:  Commercial: aHR, 5.697 (95% CI, 0.688 to 47.147)  Medicaid: aHR, 0.113 (95% CI, 0.015 to 0.885)  Suicide attempt (expanded)  Events: 22 vs. 11 vs. 15 vs. 23  Propensity score adjusted HR, EFV use vs. EFV-free regimen:  Commercial: aHR, 1.000 (95% CI, 0.513 to 1.950)  Medicaid: aHR, 0.710 (95% CI, 0.334 to 1.509) |
| Fracture | Borges 2017112 EuroSIDA Study  Prospective cohort | TDF exposure vs. no TDF exposure | Fracture, TDF ever used vs. nonuse: aIRR, 1.40 (95% CI, 1.15 to 1.70) Fracture, current TDF use vs. nonuse: aIRR, 1.25 (95% CI, 1.05 to 1.49) Fracture, cumulative TDF use per 5 years of exposure vs. nonuse: aIRR, 1.08 (95% CI, 0.94 to 1.25)  No association between exposure to any of the other investigated antiretrovirals and fracture risk (data not shown) |
| Fracture | Nkhoma 2016b120 (see also **Kidney Disease**)  Retrospective cohort | A. EVF + TDF-FTC B. RPV + TDF-FTC  C. EVG/COBI + TDF-FTC | All patients (regardless of intervention): Fracture: 1.3% (1,710/131,612); IR, 4.4 (95% CI, 4.2 to 4.6)  A vs. B vs. C: Fracture: IR, 3.4 (95% CI, 2.7 to 4.2) vs. 3.6 (95% CI, 1.9 to 6.9) vs. 7.2 (95% CI, 4.4 to 12.0); unadjusted IRD, A vs. B: -0.25 (95% CI, -1.02 to 0.44); IRD, A vs. C: -3.85 (95% CI, -5.02 to -2.78) |

**Abbreviations:** 3TC=lamivudine; ABC=abacavir; aIRR=adjusted incidence rate ratio; aHR=adjusted hazard ratio; aRR=adjusted rate ratio; ART=antiretroviral therapy; ATV=atazanavir; ATV/r= ritonavir-boosted atazanavir; cART=combination antiretroviral therapy; CI=confidence interval; COBI=cobicistat; D4L=stavudine; D:A:D Study= Data collection on Adverse events of anti-HIV Drugs Study; ddl=didanosine; eGFR=estimated glomerular filtration rate; EFV=efavirenz; EVG=elvitegavir; FPV=fosamprenavir; FTC=emtricitabine; HBV=hepatitis B virus; HCV=hepatitis C virus; HR=hazard ratio; IR=incidence rate; IRD=incidence rate difference; IRR=incidence rate ratio; LPV/r=ritonavir-boosted lopinavir; MI=myocardial infarction; NNRTI=nonnucleoside reverse transcriptase inhibitor; NRTI=nucleoside reverse transcriptase inhibitor; NVP=nevirapine; OR=odds ratio; PI=protease inhibitor; RAL=raltegravir; RCT=randomized, controlled trial; RPV=rilpivirine; RR=relative risk; RTV=ritonavir; STARTMRK=Phase III Noninferiority Trial of Raltegravir-Based Versus Efavirenz-Based Therapy in Treatment-Naïve Patients; TAF=tenofovir alafenamide; TDF=tenofovir disoproxil fumarate; ZDV=zidovudine.

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