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Date: 2009-09-18

Question: Should TDF vs ABC be used for initial ART?

Settings: Multiple locations

Bibliography: 1. Sax P, Tierney C, Collier A, Fischl M, Godfrey C, Jahed N, Droll K, Peebles L, Myers L, Thal G, Rooney J, Ha B, Woodward W, Daar E. ACTG 5202: shorter time to virologic failure (VF) with abacavir/lamivudine (ABC/3TC) than tenofovir/emtricitabine (TDF/FTC) as part of combination therapy in treatment-naïve subjects with screening HIV RNA $\geq 100,000$ c/mL [Abstract THAB0303]. XVII International Conference on AIDS, Mexico City, August 3-8, 2008. 2. Smith KY, Patel P, Fine D, Bellos N, Sloan L, Lackey P, Kumar PN, Sutherland-Phillips DH, Vavro, C, Yau L, Wannamaker P, Shaefer MS, HEAT Study Team. Randomized, double-blind, placebo-matched, multicenter trial of abacavir/lamivudine or tenofovir/emtricitabine with lopinavir/ritonavir for initial HIV treatment. AIDS 2009 Jun 17.

Quality assessment							Summary of findings					Importance
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	No of patients		Effect		Quality	
							TDF	ABC	Relative (95% CI)	Absolute		
Mortality - not reported												
0	-	-	-	-	-	none	0/0 (0%)	0/0 (0%)	-	-		
Clinical response (follow-up mean 96 weeks)												
1	randomised trials	no serious limitations	no serious inconsistency	serious ¹	serious ²	none ³	1/345 (0.3%)	0/343 (0%)	RR 2.98 (0.12 to 72.96)	0 more per 1000 (from 0 fewer to 0 more)	⊕⊕⊕ LOW	CRITICAL
Severe adverse events (follow-up mean 96 weeks)												
1	randomised trials	no serious limitations	no serious inconsistency	serious ¹	no serious imprecision	none ³	97/345 (28.1%)	103/343 (30%)	RR 0.94 (0.74 to 1.18)	18 fewer per 1000 (from 78 fewer to 54 more)	⊕⊕⊕ MODERATE	CRITICAL
Virologic response (follow-up 1 study at 48, 1 study at 96 weeks)												
2	randomised trials	no serious limitations	no serious inconsistency ⁴	serious ¹	no serious imprecision	none ³	550/744 (73.9%)	533/741 (71.9%)	RR 1.03 (0.95 to 1.11)	22 more per 1000 (from 36 fewer to 79 more)	⊕⊕⊕ MODERATE	CRITICAL
Adherence/tolerability/retention (follow-up mean 96 weeks)												
1	randomised trials	no serious limitations	no serious inconsistency	serious ¹	no serious imprecision	none ³	221/345 (64.1%)	234/343 (68.2%)	RR 0.94 (0.84 to 1.05)	41 fewer per 1000 (from 109 fewer to 34 more)	⊕⊕⊕ MODERATE	CRITICAL
Immunologic response (follow-up mean 96 weeks; Better indicated by higher values)												
1	randomised trials	no serious limitations	no serious inconsistency	serious ¹	serious ²	none ³	345	343	-	MD 3 higher (12.69 lower to 18.69 higher)	⊕⊕⊕ LOW	IMPORTANT
Drug resistance - not reported												
0	-	-	-	-	-	none	0/0 (0%)	0/0 (0%)	-	-		
Sexual transmission of HIV - not reported												
0	-	-	-	-	-	none	0/0 (0%)	0/0 (0%)	-	-		

¹ Both studies looked at the indirect basic comparison of TDF+FTC vs. ABC+3TC. One study was conducted only in developed country settings (Smith); the final study did not report a location for the study.

² Number of events <300 and/or confidence intervals include potential harm and benefit.

³ One study was industry funded (Smith) while the source of funding for the other (Sax) was unclear; studies were not downgraded based on these facts.

⁴ Treatment failure in high PVL group (viral load $\geq 100,000$ copies/mL) inconsistent with findings from a meta-analysis (Pappa 2008) of patients starting ABC-3TC regimens in which patients with HIV-1 RNA levels of $< 100,000$ and $\geq 100,000$ had similar experiences and that between 87% and 95% did not experience virological failure.