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| study/criteria | UKPDS 33, Lancet ‘98 | ACCORD, NEJM ‘08 | ADVANCE, NEJM ‘08 | VADT, NEJM ‘09 |
| study type | RCT | RCT | RCT | RCT |
| who were patients | 3,867 newly dx’ed diabetics, avg age 54; exclusion MI past year, CHF or angina current, >1 vascular event, elevated Cr, malignant HTN, limited life exp, jobs which precluded insulin | 10,251 avg age 62, A1c >7.5 (avg A1c 8.1) with diabetic end-organ damage or 2 risk factors thereof | 11,140 diabetics age >55 with macro-or-micro vasc dz or risk factor thereof in 20 countries | 1,791 military vets poor A1c control (>7.5%), avg age 60, had DM 11 yrs, 40% already had CV event; exclusion recent MI, BMI >40, SCr > 1.6, adv CHF, life exp < 7 yrs |
| what outcomes measured | All-cause mortality, composite macro & micro-vasc outcomes, 21 individual outcome endpoints | 1° composite macrovasc events (fatal/non-fatal MI, stroke) | 1° composite macrovasc events (POEMs) and composite microvasc outcomes (mainly DOEs) | 1° time to CV event  2° new/worse angina, TIA, claud, limb ischemia, all-cause mort, retinop, neurop, nephrop |
| median f/up (duration) | 10 years | 3.5 yrs, stopped early | 5.0 yrs | 5.6 yrs |
| interventions | Intensive: keep fasting sugars <6mmol/L (108 mg/dL), pre-meal sugars for insulin pts 4-7 (72-127), diet and meds (SU, insulin, later metformin)  Standard: keep fasting sugars <15mmol/L (270 mg/dL), use diet first, add meds for high sugars or sx | Intensive: target A1c <6.0  Standard: target 7.0-7.9 | Intensive: usual regimen + Gliclazide til A1c <6.5  Standard: usual regimen with local A1c goal | Intensive: max dose Glimep & Rosiglit, then insulin for A1c > 6  Standard: half-max dose Glimep & Rosiglit, then insulin for A1c > 9  Goal intensive A1c’s 1.5 better than standard |
| findings relative & absolute | A1c’s 7.0 vs 7.9  All outcomes no benefit (all-cause mort, MI, stroke, amputation, etc.) except retinal photocoagulation (7.9 vs 11.0% p 0.008) | A1c’s 6.4 vs 7.5  Primary composite CV outcome no better (0.90, 0.78-1.04, p 0.16); much worse all-cause mortality RR 1.22 (1.01-1.46, p 0.04), worse CV mort (2.6 vs 1.8% p 0.004), worse serious hypoglycemia (10.5 vs 3.5% p <0.001), wt gain, edema | A1c’s 6.5 vs 7.3  No benefit all-cause mort, CV events, CHF, PVD, vision, dementia; new microalb 23.7 vs. 25.7% (DOE); hospitalization worse 44.9 vs 42.8% | A1c’s 6.9 vs 8.4  No benefit all-cause mort, CV events, slight improved nephrop; vastly more hypoglyc intensive group |
| concerns | When retinal laser tx’s combined with non-improved other outcomes, study reports 25% less microvasc events! |  | NEJM article hails study as success rather than failure! | Did not adjust p value thresholds for multiple comparisons |

Summary Sheet of A1c Goal Study Findings