Title: Cardiovascular mortality of oral anti-diabetic drugs approved before and after the 2008 United States Food and Drug Administration (FDA) guidance for industry — a systemic review and meta-analysis

Journal: Clinical Drug Investigation

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Study #	Author	Publication year	Title	Reason for exclusion
2	[1]	2005	Biventricular pacing (cardiac resynchronization therapy): an evidence-based analysis	Study design is not RCT, neither intervention nor control group were OHA
4	[2]	2013	HbA1c targets in type 2 diabetes: Guidelines and evidence	Study design is not RCT
6	[3]	2015	Hypoglycaemic therapy in type 2 diabetes. Part I. Metformin is the only glucose-lowering drug known to prevent complications of diabetes	Study design is not RCT
7	[4]	2015	CADTH Rapid Response Reports	Study design is not RCT
8	[5]	2015	Glucose-lowering treatment of type 2 diabetes: Part II - glucose-lowering drugs after metformin: A choice based largely on adverse effects	Study design is not RCT
11	[6]	2016	Empagliflozin (Jardiance). Type 2 diabetes: no rush to use this drug	Study design is not RCT
13	A. S. Abdelmoneim, et al.[7]	2015	Cardiovascular safety of sulphonylureas: Over 40years of continuous controversy without an answer	Study design is not RCT
14	M. Abdel-Wahab, et al.[8]	2014	Comparison of balloon-expandable vs self- expandable valves in patients undergoing transcatheter aortic valve replacement: the CHOICE randomized clinical trial	Intervention group is not OHA
15	C. Abraira, et al.[9]	1997	Cardiovascular events and correlates in the Veterans Affairs Diabetes Feasibility Trial. Veterans Affairs Cooperative Study on Glycemic Control and Complications in Type II Diabetes	Intervention group is not OHA
16	S. Agarwal, et al.[10]	2014	Meta-analysis of the cardiovascular outcomes with dipeptidyl peptidase 4 inhibitors: validation of the current FDA mandate	Study design is not RCT
17	S. Akdag, et al.[11]	2015	The effect of low-sodium dialysate on ambulatory blood pressure measurement parameters in patients undergoing hemodialysis	Study participants were not T2DM patients
18	F. Alahdab,et al.[12]	2015	A systematic review for the screening for peripheral arterial disease in asymptomatic patients	Study design is not RCT
19	P. W. Aline Roth and F. R. Jornayvaz[13]	2016	[Cardiovascular safety of antidiabetics]	Study design is not RCT
20	S. M. Al-Khatib, et al.[14]	2013	AHRQ Comparative Effectiveness Reviews	Study design is not RCT
21	M. Al-Omran and T. F. Lindsay[15]	2005	Should all patients with peripheral arterial disease be treated with an angiotensin-converting enzyme inhibitor?	Study participants were not T2DM patients
22	J. Anderson, et al.[16]	2013	Does metformin improve vascular health in children with type 1 diabetes? Protocol for a one year, double blind, randomized, placebo controlled trial	Study participants were not T2DM patients

eTable 1. List of excluded studies and the reasons for exclusion

Study #	Author	Publication year	Title	Reason for exclusion
24	T. Ando, et al.[17]	2016	Transcatheter aortic valve replacement versus surgical aortic valve replacement in patients with previous coronary artery bypass surgery: A systematic review and meta-analysis	Study participants were not T2DM patients
25	T. Ando and H. Takagi[18]	2016	The Prognostic Impact of New-Onset Persistent Left Bundle Branch Block Following Transcatheter Aortic Valve Implantation: A Meta-analysis	Study participants were not T2DM patients
26	R. C. Andrews and M. Z. Chen[19]	2014	Bariatric surgery for type 2 diabetes always produces a good outcome	Intervention group is not OHA
27	F. Angeli, et al.[20]	2010	ss-Blockers reduce mortality in patients undergoing high-risk non-cardiac surgery	Study participants were not T2DM patients
28	G. A. Antoniou, et al.[21]	2014	Statin therapy in lower limb peripheral arterial disease: Systematic review and meta-analysis	Study participants were not T2DM patients
29	G. A. Antoniou, et al.[22]	2015	Meta-analysis of the effects of statins on perioperative outcomes in vascular and endovascular surgery	Study participants were not T2DM patients
30	J. Aro[23]	1991	Cardiovascular and all-cause mortality in prostatic cancer patients treated with estrogens or orchiectomy as compared to the standard population	Study participants were not T2DM patients
31	J. L. Aro, et al.[24]	1989	High dose polyoestradiol phosphate with and without acetosalicylic acid versus orchiectomy in the treatment of prostatic cancer. Finnprostate Group	Study participants were not T2DM patients
32	D. Aronson and E. R. Edelman[25]	2014	Coronary artery disease and diabetes mellitus	Intervention group is not OHA
33	K. A. Arsenault, et al.[26]	2013	Interventions for preventing post-operative atrial fibrillation in patients undergoing heart surgery	Study participants were not T2DM patients
34	B. O. Åsvold, et al.[27]	2000	Sulphonylurea and cardiovascular risk	Study design is not RCT
35	E. D. Avgerinos and R. A. Chaer[28]	2015	Catheter-directed interventions for acute pulmonary embolism	Study participants were not T2DM patients
36	S. Azim, et al.[29]	2014	Evaluating Cardiovascular Safety of Novel Therapeutic Agents for the Treatment of Type 2 Diabetes Mellitus	Study design is not RCT
38	K. Bajuk Studen, et al.[30]	2013	Cardiovascular risk and subclinical cardiovascular disease in polycystic ovary syndrome	Study participants were not T2DM patients
39	E. M. Balk, et al.[31]	2016	AHRQ Comparative Effectiveness Reviews	Study participants were not T2DM patients
40	S. Bangalore, et al.[32]	2008	Perioperative beta blockers in patients having non-cardiac surgery: a meta-analysis	Study participants were not T2DM patients
41	M. Barbanti, et al.[33]	2016	Three-Year Outcomes of Transcatheter Aortic Valve Implantation in Patients With Varying Levels of Surgical Risk (from the CoreValve ADVANCE Study)	Intervention group is not OHA

Study #	Author	Publication vear	Title	Reason for exclusion
42	M. Barkagan, et al.[34]	2016	Impact of routine manual aspiration thrombectomy on outcomes of patients undergoing primary percutaneous coronary intervention for acute myocardial infarction: A meta-analysis	Study participants were not T2DM patients
43	F. C. Barreto, et al.[35]	2014	Effects of pyrophosphate delivery in a peritoneal dialysis solution on bone tissue of apolipoprotein-E knockout mice with chronic kidney disease	Study participants were not T2DM patients
45	A. Baumbach, et al.[36]	2015	Safety and performance of a novel embolic deflection device in patients undergoing transcatheter aortic valve replacement: results from the DEFLECT I study	Study participants were not T2DM patients
46	G. Belcher, et al.[37]	2004	Cardiovascular effects of treatment of type 2 diabetes with pioglitazone, metformin and gliclazide	Study design is not RCT
47	O. Berwanger, et al.[38]	2016	Association between pre-operative statin use and major cardiovascular complications among patients undergoing non-cardiac surgery: the VISION study	Study participants were not T2DM patients
49	V. Bittner, et al.[39]	2015	Comprehensive cardiovascular risk factor control improves survival: The BARI 2D trial	Intervention group is not OHA
50	J. E. Blair, et al.[40]	2008	Continental differences in clinical characteristics, management, and outcomes in patients hospitalized with worsening heart failure results from the EVEREST (Efficacy of Vasopressin Antagonism in Heart Failure: Outcome Study with Tolyaptan) program	Study participants were not T2DM patients
51	S. Bolen, et al.[41]	2016	AHRQ Comparative Effectiveness Reviews	Study design is not RCT
52	C. Bouchardy, et al.[42]	2010	Excess of cardiovascular mortality among node-negative breast cancer patients irradiated for inner-quadrant tumors	Study participants were not T2DM patients
53	R. Boussageon, et al.[43]	2014	Effects of pharmacological treatments on micro- and macrovascular complications of type 2 diabetes: What is the level of evidence?	Study design is not RCT
55	S. J. Brecker, et al.[44]	2016	Impact of Anesthesia Type on Outcomes of Transcatheter Aortic Valve Implantation (from the Multicenter ADVANCE Study)	Study participants were not T2DM patients
56	C. R. Bridges[45]	2003	Cardiac surgery in African Americans	Study participants were not T2DM patients
57	D. I. Bromage and D. M. Yellon[46]	2015	The pleiotropic effects of metformin: Time for prospective studies	Study participants were not T2DM patients
58	L. C. Brown, et al.[47]	2011	Incidence of cardiovascular events and death after open or endovascular repair of abdominal aortic aneurysm in the randomized EVAR trial 1	Study participants were not T2DM patients
59	S. Buhse, et al.[48]	2016	The 'Old' anti-diabetic agents: A systematic inventory	Study design is not RCT

Study #	Author	Publication	Title	Reason for
		year		exclusion
60	M. Burgmaier, et	2013	Cardiovascular effects of GLP-1 and GLP-1-	Study design is not
	al.[49]		based therapies: Implications for the	RCT
			cardiovascular continuum in diabetes?	
61	C. V. Calkin, et	2013	The relationship between bipolar disorder and	Cardiovascular
	al.[50]		type 2 diabetes: More than just co-morbid	mortality is not an
(2)	V. C 1 (51)	2015	disorders	outcome
62	K. Cao, et al.[51]	2015	Association of an inter-arm systolic blood	Study participants
			pressure difference with all-cause and	were not 12DM
			analysis of cohort studios	patients
63	D M Carty et	2013	Cardiovascular safety and GLP-1 recentor	Study design is not
05	al [52]	2013	agonists	RCT
64	D. M. Carty, et	2013	Cardiovascular safety and DPP-4 inhibitors	Study design is not
0.	al.[53]	2010		RCT
65	Y. C. Chan, et	2008	Perioperative use of statins in non-cardiac	Study participants
	al.[54]		surgery	were not T2DM
				patients
66	L. Chen, et al.[55]	2016	Long-term mortality after parathyroidectomy	Study participants
			among chronic kidney disease patients with	were not T2DM
			secondary hyperparathyroidism: a systematic	patients
			review and meta-analysis	
67	N. D. Cohen, et	2013	The rationale for combining GLP-1 receptor	Study design is not
10	al.[56]		agonists with basal insulin	RCT
68	G. Coluzzi, et	2012	EuroThrombosis: Annual meeting of the	Study participants
	al.[57]		European Society of Cardiology Working	were not T2DM
60	LV Conto at	2016	Transactheter or Surgical Aortia Valua	Study participants
09	J. V. Come, et	2010	Replacement in Patients With Prior Coronary	were not T2DM
	ai.[50]		Artery Bypass Grafting	natients
70	S. D. Corathers, et	2013	Complications of Diabetes Therapy	Study design is not
	al.[59]	2013		RCT
71	R. Cruz U and L.	2009	Critically appraised article: Long-term risk of	Study design is not
	M. Letelier S[60]		cardiovascular events with rosiglitazone: A	RCT
70		2006	meta-analysis	Q. 1
12	G. R. Dagenais, et	2006	Angiotensin-converting-enzyme inhibitors in	Study participants
	al.[01]		stable vascular disease without left ventricular	patients
			combined analysis of three trials	patients
73	IS Dahl et al [62]	2013	Relation of osteoprotegerin in severe aortic	Study participants
15	5. 5. Duni, et un[02]	2015	valve stenosis to postoperative outcome and	were not T2DM
			left ventricular function	patients
74	J. S. Dahl, et al.[63]	2012	Global strain in severe aortic valve stenosis:	Study participants
			relation to clinical outcome after aortic valve	were not T2DM
			replacement	patients
75	P. Damman, et	2012	Long-term cardiovascular mortality after	Study participants
	al.[64]		procedure-related or spontaneous myocardial	were not T2DM
			infarction in patients with non-ST-segment	patients
			elevation acute coronary syndrome: a	
			collaborative analysis of individual patient data	
			(EID)	
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Study #	Author	Publication year	Title	Reason for exclusion
76	D. E. W. DD, et al.[65]	2017	Asymptomatic carotid artery stenosis: who should be screened, who should be treated and how should we treat them?	Study participants were not T2DM patients
77	J. de Jager, et al.[66]	2014	Long-term effects of metformin on endothelial function in type 2 diabetes: A randomized controlled trial	Cardiovascular mortality is not an outcome
78	S. De Servi, et al.[67]	2011	Treating acute coronary syndromes with new antiplatelet drugs: the mortality issue with prasugrel and ticagrelor	Study participants were not T2DM patients
79	K. M. Detre and R. Holubkov[68]	2002	Coronary revascularization on balance: Robert L. Frye lecture	Study participants were not T2DM patients
80	P. J. Devereaux, et al.[69]	2005	How strong is the evidence for the use of perioperative beta blockers in non-cardiac surgery? Systematic review and meta-analysis of randomised controlled trials	Intervention group is not OHA
81	P. J. Devereaux, et al.[70]	2006	Rationale, design, and organization of the PeriOperative ISchemic Evaluation (POISE) trial: a randomized controlled trial of metoprolol versus placebo in patients undergoing noncardiac surgery	Intervention group is not OHA
82	A. Diaz, et al.[71]	2005	Long-term prognostic value of resting heart rate in patients with suspected or proven coronary artery disease	Study participants were not T2DM patients
84	J. P. Domecq, et al.[72]	2013	Adverse effects of the common treatments for polycystic ovary syndrome: a systematic review and meta-analysis	Study participants were not T2DM patients
85	L. Du, et al.[73]	2014	Cardiovascular safety of sulphonylurea: Comment on the study by Monami et al	Study design is not RCT
86	R. Duarte[74]	2013	Oral antidiabetic drugs. How to begin and combine without cardiovascular risk	Study design is not RCT
87	C. J. Dunn and D. H. Peters[75]	1995	Metformin: A Review of its Pharmacological Properties and Therapeutic Use in Non— Insulin-Dependent Diabetes Mellitus	Study design is not RCT
88	J. B. Echouffo- Tcheugui, et al.[76]	2009	The ADDITION-Cambridge trial protocol: a cluster randomised controlled trial of screening for type 2 diabetes and intensive treatment for screen-detected patients	Study design is not RCT
90	M. F. Eleid, et al.[77]	2014	Renal denervation for hypertension	Study participants were not T2DM patients
91	I. Y. Elgendy, et al.[78]	2016	Cardiovascular Safety of Dipeptidyl-Peptidase IV Inhibitors: A Meta-Analysis of Placebo- Controlled Randomized Trials	Study design is not RCT
92	E. G. Elias, et al.[79]	1994	Breast cancer prevention trial	Study participants were not T2DM patients
93	S. S. Engel, et al.[80]	2013	Cardiovascular safety of sitagliptin in patients with type 2 diabetes mellitus: A pooled analysis	Study design is not RCT
94	E. Erdmann, et al.[81]	2014	Observational follow-up of the PROactive study: A 6-year update	Study design is not RCT

Study #	Author	Publication vear	Title	Reason for exclusion
95	D. R. Erlich, et al.[82]	2013	Diabetes update: screening and diagnosis	Study design is not RCT
96	C. Eshelbrenner, et al.[83]	2012	The cardiologist's role in the management of type 2 diabetes-a review	Study design is not RCT
97	J. A. Fallavollita, et al.[84]	2006	Prediction of arrhythmic events with positron emission tomography: PAREPET study design and methods	Study design is not RCT
98	A. Fayad, et al.[85]	2016	Perioperative Diastolic Dysfunction in Patients Undergoing Noncardiac Surgery Is an Independent Risk Factor for Cardiovascular Events: A Systematic Review and Meta- analysis	Study design is not RCT
99	S. Ferlito[86]	1991	[Platelet antiaggregants in the treatment of arterial thrombosis]	Study participants were not T2DM patients
100	E. Fernando, et al.[87]	2015	Cardiovascular Disease in South Asian Migrants	Study participants were not T2DM patients
101	E. Ferrannini and R. A. DeFronzo[88]	2015	Impact of glucose-lowering drugs on cardiovascular disease in type 2 diabetes	Study design is not RCT
102	J. P. Ferreira, et al.[89]	2016	Spot urine sodium excretion as prognostic marker in acutely decompensated heart failure: the spironolactone effect	Study participants were not T2DM patients
103	K. J. Filipiak[90]	2000	[Sulphonylurea derivatives and the cardiovascular system]	Study design is not RCT
104	M. Fisher, et al.[91]	2015	Cardiovascular safety of albiglutide in the Harmony programme: A meta-analysis	Study design is not RCT
105	S. A. Fisher, et al.[92]	2015	Stem cell treatment for acute myocardial infarction	Intervention group is not OHA
106	F. Foltran, et al.[93]	2010	Nutritional profiles in a public health perspective: a critical review	Study participants were not T2DM patients
107	T. Forst, et al.[94]	2013	Association of sulphonylurea treatment with all-cause and cardiovascular mortality: a systematic review and meta-analysis of observational studies	Study design is not RCT
109	E. B. Friedrich, et al.[95]	2006	ACE inhibition in secondary prevention: are the results controversial?	Intervention group is not OHA
110	J. O. Friedrich, et al.[96]	2009	Rosiglitazone: can meta-analysis accurately estimate excess cardiovascular risk given the available data? Re-analysis of randomized trials using various methodologic approaches	Study design is not RCT
111	Y. Fu, et al.[97]	2016	Meta-analysis of all-cause and cardiovascular mortality in obstructive sleep apnea with or without continuous positive airway pressure treatment	Study participants were not T2DM patients
112	S. Fumagalli, et al.[98]	2012	Characteristics, management and prognosis of elderly patients in the Euro Heart Survey on atrial fibrillation	Study participants were not T2DM patients
113	P. Galan, et al.[99]	2009	The scientific basis of the SU.FOL.OM3 study: A secondary intervention trial of folate, B6 and B12 vitamins and/or omega3 falty acid	Study participants were not T2DM patients

Study #	Author	Publication year	Title	Reason for exclusion
			supplements in the prevention of recurrent ischemic events	
114	P. Galan, et al.[100]	2003	Background and rationale of the SU.FOL.OM3 study: double-blind randomized placebo- controlled secondary prevention trial to test the impact of supplementation with folate, vitamin B6 and B12 and/or omega-3 fatty acids on the prevention of recurrent ischemic events in subjects with atherosclerosis in the coronary or cerebral arteries	Study participants were not T2DM patients
115	B. Gallwitz and R. G. Bretzel[101]	2013	How do we continue treatment in patients with type 2 diabetes when therapeutic goals are not reached with oral antidiabetes agents and lifestyle? incretin versus insulin treatment	Study design is not RCT
116	A. N. Ganesan, et al.[102]	2012	Role of AV nodal ablation in cardiac resynchronization in patients with coexistent atrial fibrillation and heart failure a systematic review	Intervention group is not OHA
117	A. Garber, et al.[103]	2013	American association of clinical endocrinologists' comprehensive diabetes management algorithm 2013 consensus statement	Study design is not RCT
118	H. Gasparovic, et al.[104]	2014	Impact of remote ischemic preconditioning preceding coronary artery bypass grafting on inducing neuroprotection (RIPCAGE): study protocol for a randomized controlled trial	Study participants were not T2DM patients
119	M. Gaztañaga and J. Crook[105]	2012	Androgen deprivation therapy: Minimizing exposure and mitigating side effects	Intervention group is not OHA
120	C. M. George, et al.[106]	2015	Management of blood glucose with noninsulin therapies in type 2 diabetes	Study design is not RCT
122	H. C. Gerstein, et al.[107]	2014	Effects of intensive glycaemic control on ischaemic heart disease: Analysis of data from the randomised, controlled ACCORD trial	Cardiovascular mortality is not an outcome
123	B. Geudelin[108]	2015	Treating Atherosclerotic Disease: A Still- Unsolved Challenge	Study participants were not T2DM patients
124	P. Ghody, et al.[109]	2015	Identifying prediabetes - Is it beneficial in the long run?	Study participants were not T2DM patients
125	A. A. Ghotbi, et al.[110]	2013	Association of hypoglycemic treatment regimens with cardiovascular outcomes in overweight and obese subjects with type 2 diabetes: A substudy of the SCOUT trial	Cardiovascular mortality is not an outcome
128	M. Gillett, et al.[111]	2012	Non-pharmacological interventions to reduce the risk of diabetes in people with impaired glucose regulation: a systematic review and economic evaluation	Intervention group is not OHA
129	A. K. Gitt, et al.[112]	2012	Should antidiabetic treatment of type 2 diabetes in patients with heart failure differ from that in patients without?	Study design is not RCT
130	A. S. Godinho, et al.[113]	2012	On-pump versus off-pump coronary-artery bypass surgery: a meta-analysis	Study participants were not T2DM patients

Study #	Author	Publication vear	Title	Reason for exclusion
131	A. Goyal, et al.[114]	2013	Serum antioxidant nutrients, vitamin A, and mortality in U.S. Adults	Intervention group is not OHA
132	L. Graffouillère, et al.[115]	2016	Prospective association between the Dietary Inflammatory Index and mortality: Modulation by antioxidant supplementation in the SU.VI.MAX randomized controlled trial	Intervention group is not OHA
133	G. Grenet, et al.[116]	2016	Protocol of GLUcose COntrol Safety and Efficacy in type 2 Dlabetes, a NETwork meta- analysis:GLUCOSE DINET protocol - Rational and design	Study design is not RCT
134	S. J. Griffin, et al.[117]	2011	Effect of early intensive multifactorial therapy on 5-year cardiovascular outcomes in individuals with type 2 diabetes detected by screening (ADDITION-Europe): A cluster- randomised trial	Intervention group is not OHA
135	N. Grondal, et al.[118]	2010	The Viborg Vascular (VIVA) screening trial of 65-74 year old men in the central region of Denmark: study protocol	Intervention group is not OHA
136	B. Guida, et al.[119]	2014	Effect of short-term synbiotic treatment on plasma p-cresol levels in patients with chronic renal failure: a randomized clinical trial	Intervention group is not OHA
137	S. Hajibandeh, et al.[120]	2016	Prognostic significance of ankle brachial pressure index: A systematic review and meta- analysis	Intervention group is not OHA
138	F. A. Hakim and A. Pflueger[121]	2010	Role of oxidative stress in diabetic kidney disease	Study participants were not T2DM patients
139	O. P. R. Hamnvik and G. T. McMahon[122]	2009	Glycemic targets for patients with type 2 diabetes mellitus	Study design is not RCT
140	M. Hanefeld, et al.[123]	2013	Cardiac implications of hypoglycaemia in patients with diabetes - a systematic review	Study design is not RCT
141	W. Hanif and S. Kumar[124]	2001	Nateglinide: A new rapid-acting insulinotropic agent	Study design is not RCT
142	G. Hardy[125]	2013	Saxagliptin demonstrates no increased risk for cardiovascular death, heart attack or stroke in the SAVOR cardiovascular outcomes trial	Study design is not RCT
143	A. G. Hatrick, et al.[126]	2002	Does GH replacement therapy in adult GH- deficient patients result in recurrence or increase in size of pituitary tumours?	Study participants were not T2DM patients
144	H. J. Heerspink, et al.[127]	2016	Sodium Glucose Cotransporter 2 Inhibitors in the Treatment of Diabetes Mellitus: Cardiovascular and Kidney Effects, Potential Mechanisms, and Clinical Applications	Study design is not RCT
146	A. Heilbrunn[128]	2012	Physical activity and type 2 diabetes mellitus	Intervention group is not OHA
147	B. Hemmingsen, et al.[129]	2012	Comparison of metformin and insulin versus insulin alone for type 2 diabetes: systematic review of randomised clinical trials with meta- analyses and trial sequential analyses	Study design is not RCT
148	B. Hemmingsen, et al.[130]	2011	Intensive glycaemic control for patients with type 2 diabetes: Systematic review with meta-	Study design is not RCT

Study #	Author	Publication	Title	Reason for evclusion
		ycar	analysis and trial sequential analysis of	exclusion
			randomised clinical trials	
149	B. Hemmingsen, et al.[131]	2013	Sulphonylurea monotherapy for patients with type 2 diabetes mellitus	Study design is not RCT
151	B. Hemmingsen, et al.[132]	2014	Sulfonylurea versus metformin monotherapy in patients with type 2 diabetes: a Cochrane systematic review and meta-analysis of randomized clinical trials and trial sequential analysis	Study design is not RCT
152	B. Hemmingsen, et al.[133]	2016	Insulin secretagogues for prevention or delay of type 2 diabetes mellitus and its associated complications in persons at increased risk for the development of type 2 diabetes mellitus	Study participants were not T2DM patients
153	C. Hennequin, et al.[134]	2008	[Irradiation of lymph nodes areas in breast cancer]	Study participants were not T2DM patients
154	T. S. Hermann, et al.[135]	2006	Quinapril treatment increases insulin- stimulated endothelial function and adiponectin gene expression in patients with type 2 diabetes	Intervention group is not OHA
155	B. Hirshberg and A. Katz[136]	2013	Cardiovascular outcome studies with novel antidiabetes agents: Scientific and operational considerations	Study design is not RCT
156	M. Ho, et al.[137]	2014	Effect of fat loss on arterial elasticity in obese adolescents with clinical insulin resistance: RESIST study	Study participants were not T2DM patients
157	S. E. Holden and C. J. Currie[138]	2014	Mortality risk with sulphonylureas compared to metformin	Study design is not RCT
158	R. R. Holman[139]	2013	Type 2 diabetes mellitus in 2012: Optimal management of T2DM remains elusive	Study design is not RCT
159	R. R. Holman, et al.[140]	2014	Cardiovascular outcome trials of glucose- lowering drugs or strategies in type 2 diabetes	Study design is not RCT
162	I. Hopper, et al.[141]	2011	Prevention of diabetes and reduction in major cardiovascular events in studies of subjects with prediabetes: Meta-analysis of randomised controlled clinical trials	Study design is not RCT
163	J. V. Huang, et al.[142]	2012	PPAR-γ as a therapeutic target in cardiovascular disease: Evidence and uncertainty	Study participants were not T2DM patients
164	W. Hueb, et al.[143]	2008	A randomized comparative study of patients undergoing myocardial revascularization with or without cardiopulmonary bypass surgery: The MASS III Trial	Study design is not RCT
165	J. Iqbal, et al.[144]	2014	Effect of eplerenone in percutaneous coronary intervention-treated post-myocardial infarction patients with left ventricular systolic dysfunction: a subanalysis of the EPHESUS trial	exclude: participant
166	D. R. Janero[145]	2014	Synthetic agents in the context of metabolic/bariatric surgery: Expanding the scope and impact of diabetes drug discovery	Cardiovascular mortality is not an outcome

Study #	Author	Publication year	Title	Reason for exclusion
167	P. Jerie[146]	2003	[New aspects in clinical cardiology: sex-based differences in cardiovascular morbidity and mortality]	Study participants were not T2DM patients
168	K. G. Jones, et al.[147]	2001	Interleukin-6 (IL-6) and the prognosis of abdominal aortic aneurysms	Study participants were not T2DM patients
169	M. Jun, et al.[148]	2012	Antioxidants for chronic kidney disease	Study participants were not T2DM patients
170	P. Kahlert, et al.[149]	2017	No protection of heart, kidneys and brain by remote ischemic preconditioning before transfemoral transcatheter aortic valve implantation: Interim-analysis of a randomized single-blinded, placebo-controlled, single- center trial	Study participants were not T2DM patients
171	S. V. Kakorin, et al.[150]	2016	Glycemia control and glucose-lowering therapy in patients with type 2 diabetes mellitus and cardiovascular disease (review of multicenter randomized trials)	Study design is not RCT
172	R. C. Kalayjian, et al.[151]	2014	Proteinuria is associated with neurocognitive impairment in antiretroviral therapy treated HIV-infected individuals	Study participants were not T2DM patients
173	D. E. Kandzari, et al.[152]	2012	Catheter-based renal denervation for resistant hypertension: rationale and design of the SYMPLICITY HTN-3 Trial	Study participants were not T2DM patients
174	B. A. Kappel, et al.[153]	2015	Oral hypoglycemic agents and the heart failure conundrum: Lessons from and for outcome trials	Study design is not RCT
175	T. Karagiannis, et al.[154]	2015	Cardiovascular risk with DPP-4 inhibitors: latest evidence and clinical implications	Study design is not RCT
176	D. Karásek[155]	2016	EMPA-REG OUTCOME and reduction of the risk of heart failure in patients with diabetes	Study design is not RCT
177	T. Kasai, et al.[156]	2008	Propensity analysis of 12 years outcome after bypass graft or balloon angioplasty in patients with multivessel coronary artery disease	Study participants were not T2DM patients
178	L. Kezerle, et al.[157]	2014	Treating the elderly diabetic patient: Special considerations	Cardiovascular mortality is not an outcome
179	B. Kiaii, et al.[158]	2015	Postoperative atrial fibrillation is not pulmonary vein dependent: results from a randomized trial	Study participants were not T2DM patients
180	R. J. King and P. J. Grant[159]	2016	Diabetes and cardiovascular disease: pathophysiology of a life-threatening epidemic	Intervention group is not OHA
181	M. G. Kirby[160]	2012	Sixty years of diabetes management in primary care	Cardiovascular mortality is not an outcome
184	M. Kowalewski, et al.[161]	2015	Complete revascularisation in ST-elevation myocardial infarction and multivessel disease: meta-analysis of randomised controlled trials	Study participants were not T2DM patients
186	A. J. Krentz and M. Hompesch[162]	2014	Cardiovascular safety of new drugs for diabetes: Getting the balance right?	Study design is not RCT

Study #	Author	Publication year	Title	Reason for exclusion
187	L. T. Krogsboll, et al.[163]	2012	General health checks in adults for reducing morbidity and mortality from disease	Study participants were not T2DM patients
188	P. Kumarathurai, et al.[164]	2017	Effects of Liraglutide on Heart Rate and Heart Rate Variability: A Randomized, Double- Blind, Placebo-Controlled Crossover Study	Intervention group is not OHA
189	M. Kvapil[165]	2016	The role of sitagliptin in the treatment of type 2 diabetes based on the results of the TECOS study	Full article not available
190	Y. Kwon, et al.[166]	2017	Body Mass Index-Related Mortality in Patients with Type 2 Diabetes and Heterogeneity in Obesity Paradox Studies: A Dose-Response Meta-Analysis	Cardiovascular mortality is not an outcome
191	C. Lamas Oliveira[167]	2013	Metabolic consequences of craniopharyingioma and their management	Study participants were not T2DM patients
192	A. Lamy, et al.[168]	2012	Rationale and design of the coronary artery bypass grafting surgery off or on pump revascularization study: a large international randomized trial in cardiac surgery	Intervention group is not OHA
193	M. J. Landray, et al.[169]	2002	The cardioprotective role of β -blockers in patients with diabetes mellitus	Intervention group is not OHA
194	A. M. Lee and E. L. Chaikof[170]	2013	Is the abdominal aortic aneurysm rupture rate decreasing?	Study participants were not T2DM patients
196	J. Lexchin[171]	2013	Use of surrogate outcomes in medical journal advertising in Canada	Study participants were not T2DM patients
197	E. Lim, et al.[172]	2008	Composite outcomes in cardiovascular research: a survey of randomized trials	Study design is not RCT
198	J. S. Lindholt[173]	2007	Relatively high pulmonary and cardiovascular mortality rates in screening-detected aneurysmal patients without previous hospital admissions	Study participants were not T2DM patients
199	J. S. Lindholt[174]	2010	Abdominal aortic aneurysms	Study participants were not T2DM patients
200	J. Lisspers, et al.[175]	2005	Long-term effects of lifestyle behavior change in coronary artery disease: effects on recurrent coronary events after percutaneous coronary intervention	Study participants were not T2DM patients
201	Y. Liu, et al.[176]	2013	Inhalation of diesel exhaust does not exacerbate cardiac hypertrophy or heart failure in two mouse models of cardiac hypertrophy	Study participants were not T2DM patients
202	R. A. Lobo, et al.[177]	2014	Prevention of diseases after menopause	Study participants were not T2DM patients
203	A. Loimaala, et al.[178]	2009	Effect of Long-Term Endurance and Strength Training on Metabolic Control and Arterial Elasticity in Patients With Type 2 Diabetes Mellitus	Intervention group is not OHA

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204	A. Lonardo, et al.[179]	2015	Diagnosis and management of cardiovascular risk in nonalcoholic fatty liver disease	Study participants were not T2DM patients
205	A. Losito, et al.[180]	2005	Long-term follow-up of atherosclerotic renovascular disease. Beneficial effect of ACE inhibition	Study participants were not T2DM patients
206	S. S. Lund and Y. Gong[181]	2014	Effects of metformin versus glipizide on cardiovascular outcomes in patients with type 2 diabetes and coronary artery disease. Diabetes Care 2013;36:1304-1311	Study design is not RCT
207	A. Luthra and A. Misra[182]	2016	Drug approvals in India - Authors' reply	Study design is not RCT
208	M. A. Maglione, et al.[183]	2013	AHRQ Comparative Effectiveness Reviews	Study design is not RCT
209	K. W. Mahaffey, et al.[184]	2013	Results of a reevaluation of cardiovascular outcomes in the RECORD trial	Study design is not RCT
210	K. Mahmood, et al.[185]	2013	Metformin: The hidden chronicles of a magic drug	Cardiovascular mortality is not an outcome
211	A. N. Mahmoud, et al.[186]	2016	Does Gender Influence the Cardiovascular Benefits Observed with Sodium Glucose Co- Transporter-2 (SGLT-2) Inhibitors? A Meta- Regression Analysis	Study design is not RCT
212	R. R. Makkar, et al.[187]	2013	Determinants and outcomes of acute transcatheter valve-in-valve therapy or embolization: a study of multiple valve implants in the U.S. PARTNER trial (Placement of AoRTic TraNscathetER Valve Trial Edwards SAPIEN Transcatheter Heart Valve)	Study participants were not T2DM patients
213	M. C. Mann, et al.[188]	2015	Effect of oral vitamin D analogs on mortality and cardiovascular outcomes among adults with chronic kidney disease: a meta-analysis	Study participants were not T2DM patients
214	E. Mannucci, et al.[189]	2010	Cardiac safety profile of rosiglitazone: a comprehensive meta-analysis of randomized clinical trials	Study design is not RCT
215	E. Mannucci, et al.[190]	2008	Pioglitazone and cardiovascular risk. A comprehensive meta-analysis of randomized clinical trials	Study design is not RCT
216	N. F. Marrouche and J. Brachmann[191]	2009	Catheter ablation versus standard conventional treatment in patients with left ventricular dysfunction and atrial fibrillation (CASTLE- AF) - study design	Study participants were not T2DM patients
217	S. P. Marso, et al.[192]	2010	The effect of intensive glucose control on all- cause and cardiovascular mortality, myocardial infarction and stroke in persons with type 2 diabetes mellitus: A systematic review and meta-analysis	Study design is not RCT
218	N. M. Maruthur, et al.[193]	2016	Diabetes medications as monotherapy or metformin-based combination therapy for type 2 diabetes: A systematic review and meta- analysis	Study design is not RCT

Study #	Author	Publication vear	Title	Reason for exclusion	
219	M. R. Mehra, et al.[194]	2007	Rationale, design, and methods for the Transplant-Eligible MAnagement of Congestive Heart Failure (TMAC) trial: a multicenter clinical outcomes trial using nesiritide for TMAC	Study participants were not T2DM patients	
220	J. J. Meier, et al.[195]	2004	Is impairment of ischaemic preconditioning by sulfonylurea drugs clinically important?	Study design is not RCT	
222	M. Meier and M. Hummel[196]	2009	Cardiovascular disease and intensive glucose control in type 2 diabetes mellitus: Moving practice toward evidence-based strategies	Study design is not RCT	
223	L. G. Mellbin, et al.[197]	2008	The impact of glucose lowering treatment on long-term prognosis in patients with type 2 diabetes and myocardial infarction: a report from the DIGAMI 2 trial	Intervention group is not OHA	
225	A. Mikkola, et al.[198]	2007	Ten-year survival and cardiovascular mortality in patients with advanced prostate cancer primarily treated by intramuscular polyestradiol phosphate or orchiectomy	Study participants were not T2DM patients	
226	S. Milic, et al.[199]	2015	Nonalcoholic steatohepatitis: Emerging targeted therapies to optimize treatment options	Study participants were not T2DM patients	
227	M. E. Miller, et al.[200]	2014	Effects of randomization to intensive glucose control on adverse events, cardiovascular disease, and mortality in older versus younger adults in the ACCORD trial	The comparison was between standard care and intensive care, therefore, the individual impact of each OHA could not be seen	
228	M. Mishra, et al.[201]	2005	The effect of atorvastatin on serum lipoproteins in acromegaly	Study participants were not T2DM patients	
229	C. C. Mizzaci, et al.[202]	2017	Ivabradine as adjuvant treatment for chronic heart failure	Study participants were not T2DM patients	
230	M. Monami[203]	2013	Metformin may not reduce cardiovascular risk or all-cause mortality	Study design is not RCT	
231	M. Monami, et al.[204]	2013	Fasting and post-prandial glucose and diabetic complication. A meta-analysis	Study design is not RCT	
232	M. Monami, et al.[205]	2013	Dipeptidyl peptidase-4 inhibitors and cardiovascular risk: Ameta-analysis of randomized clinical trials	Study design is not RCT	
233	M. Monami, et al.[206]	2017	Effects of SGLT-2 inhibitors on mortality and cardiovascular events: a comprehensive meta- analysis of randomized controlled trials	Study design is not RCT	
234	M. Monami, I., et al.[207]	2014	Effects of glucagon-like peptide-1 receptor agonists on cardiovascular risk: A meta- analysis of randomized clinical trials	Intervention group is not OHA	
235	M. Monami, et al.[208]	2013	Cardiovascular safety of sulfonylureas: A meta-analysis of randomized clinical trials	Study design is not RCT	
236	W. E. Moody, et al.[209]	2016	Cardiovascular Effects of Unilateral Nephrectomy in Living Kidney Donors	Study participants were not T2DM patients	

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237	F. Mookadam, et al.[210]	2012	Percutaneous closure of mitral paravalvular leaks: a systematic review and meta-analysis patients			
238	J. Moore and K. Dungan[211]	2012	Glycemic Variability and Glycemic Control in the Acutely Ill Cardiac Patient	Cardiovascular mortality is not an outcome		
239	H. Morawietz, et al.[212]	2006	Endothelial Protection, AT1 blockade and Cholesterol-Dependent Oxidative Stress: the EPAS trial	Study participants were not T2DM patients		
240	A. Moreno-Ulloa and J. Moreno- Ulloa[213]	2016	Mortality reduction among persons with type 2 diabetes: (-)-Epicatechin as add-on therapy to metformin?	Study design is not RCT		
241	K. Mostafaie, et al.[214]	2015	Beta-adrenergic blockers for perioperative cardiac risk reduction in people undergoing vascular surgery	Study participants were not T2DM patients		
242	C. E. Murphy[215]	215] 2012 Review of the safety and efficacy of exenatide once weekly for the treatment of type 2 diabetes mellitus		Study design is not RCT		
243	S. Nadar, et al.[216]	2003	Implications of the LIFE trial	Study participants were not T2DM patients		
244	H. Nasr, et al.[217]	2015	Investigating the Effect of a Single Infusion of Reconstituted High-Density Lipoprotein in Patients with Symptomatic Carotid Plaques	Study participants were not T2DM patients		
245	T. M. Nazif, et al.[218]	2014	Clinical implications of new-onset left bundle branch block after transcatheter aortic valve replacement: analysis of the PARTNER experience	e Study participants were not T2DM patients		
246	A. Nenna, et al.[219]	2015	Basic and clinical research against advanced glycation end products (AGEs): New compounds to tackle cardiovascular disease and diabetic complications	Intervention group is not OHA		
247	P. L. Nguyen, et al.[220]	2015	Adverse effects of androgen deprivation therapy and strategies to mitigate them	Study participants were not T2DM patients		
249	T. J. Niiranen, et al.[221]	2010 Home-measured blood pressure is a stronger predictor of cardiovascular risk than office Study participa blood pressure: the Finn-Home study patients		Study participants were not T2DM patients		
250	P. M. Nilsson and J. Diez[222]	2016	DPP-4 inhibition and blood pressure lowering in perspective	Study design is not RCT		
251	S. E. Nissen[223]	2012	Cardiovascular effects of diabetes drugs: Study desig			
252	S. E. Nissen and K. Wolski[224]	2010	Rosiglitazone revisited: an updated meta- analysis of risk for myocardial infarction and cardiovascular mortality Rosiglitazone revisited: Rosiglitazone revisited: an updated meta- RCT			
253	P. G. Noordzij, et al.[225]	2007	Increased preoperative glucose levels are associated with perioperative mortality in patients undergoing noncardiac, nonvascular surgery	Study design is not RCT		
254	M. Ohira, et al.[226]	2014	Metformin reduces circulating malondialdehyde-modified low-density lipoprotein in type 2 diabetes mellitus	Cardiovascular mortality is not an outcome		

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256	M. Ohira, et	2014	Pioglitazone improves the cardio-ankle	Cardiovascular
	al.[227]		vascular index in patients with type 2 diabetes	mortality is not an
			mellitus treated with metformin	outcome
257	I. Olivotto, et	2007	Surgical myectomy versus alcohol septal	Study participants
	al.[228]		ablation for obstructive hypertrophic	were not T2DM
			cardiomyopathy. Will there ever be a	patients
			randomized trial?	
258	S. J. Otto, et	2006	Risk of cardiovascular mortality in prostate	Study participants
	al.[229]		cancer patients in the Rotterdam randomized	were not T2DM
			screening trial	patients
259	S. C. Palmer, et	2016	Comparison of Clinical Outcomes and Adverse	Study design is not
	al.[230]		Events Associated With Glucose-Lowering	RCT
			Drugs in Patients With Type 2 Diabetes: A	
2(0	C C D L	2012	Meta-analysis	Q. 1
260	S. C. Palmer, et	2013	Cinacalcet in patients with chronic kidney	Study participants
	al.[251]		rendomized controlled trials	notionts
261	A Parolari at	2011	Do stating improve outcomes and delay the	Study participants
201	A. Falolall, et	2011	progression of non-rheumatic calcific aortic	were not T2DM
	ui.[252]		stenosis?	natients
262	F I Pashkow[233]	1995	Rehabilitation in the patient after myocardial	Study participants
202	1.5.1 usino w[255]	1775	infarction with or without surgical	were not T2DM
			management	patients
263	W. Pawliszak, et	2015	Off-pump versus on-pump coronary artery	Study participants
	al.[234]		bypass grafting: Who benefits?	were not T2DM
				patients
264	A. C. Pereira, et	2007	Dynamic regulation of MTHFR mRNA	Study participants
	al.[235]		expression and C677T genotype modulate	were not T2DM
			mortality in coronary artery disease patients	patients
			after revascularization	
265	M. C. Petrie, et	2016	Ten-Year Outcomes After Coronary Artery	Study participants
	al.[236]		Bypass Grafting According to Age in Patients	were not T2DM
			With Heart Failure and Left Ventricular	patients
			Systolic Dystunction: An Analysis of the	
			Extended Follow-Up of the STICH Irial	
			(Surgical Treatment for Ischemic Heart	
266	I Petrovic et	2015	Padial artery vs sanhanous vain graft used as	Study participants
200	al [237]	2015	the second conduit for surgical myocardial	were not T2DM
	u:[257]		revascularization: long-term clinical follow-up	patients
269	A. Pfutzner, et	2007	Pioglitazone: update on an oral antidiabetic	Study design is not
-07	al.[238]		drug with antiatherosclerotic effects	RCT
271	O. J. Phung, et	2013	Sulphonylureas and risk of cardiovascular	Study design is not
	al.[239]		disease: systematic review and meta-analysis	RCT
272	L. S. Piegas, et	1999	The Organization to Assess Strategies for	Study participants
	al.[240]		Ischemic Syndromes (OASIS) registry in	were not T2DM
			patients with unstable angina	patients
273	H. Pihlstrom, et	2014	Symmetric dimethylarginine as predictor of	Study participants
	al.[241]		graft loss and all-cause mortality in renal	were not T2DM
			transplant recipients	patients
274	A. L. Pimentel, et	2015	Renal posttransplantation diabetes mellitus: An	Intervention group
	al.[242]		overview	is not OHA

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275	J. V. Pinkerton, et al.[243]	2013	Risk of first-time heart disease higher for hormone therapy users with metabolic syndrome	Study participants were not T2DM patients	
276	F. Pistrosch, et al.[244]	2004	In type 2 diabetes, rosiglitazone therapy for insulin resistance ameliorates endothelial dysfunction independent of glucose control	Cardiovascular mortality is not an outcome	
277	A. Plitt and R. P. Giugliano[245]	2014	Edoxaban: Review of pharmacology and key phase I to III clinical trials	Study participants were not T2DM patients	
278	G. Pogatsa[246]	1995	Potassium channels in the cardiovascular system	Study participants were not T2DM patients	
279	A. R. Pressl- Wenger and F. R. Jornayvaz[247]	2016	Cardiovascular safety of antidiabetics	Study design is not RCT	
280	G. Pugliese and S. Balducci[248]	2014	Navigator: Physical activity for cardiovascular health?	Intervention group is not OHA	
281	D. Radak, et al.[249]	2000	Single center experience on eversion versus standard carotid endarterectomy: a prospective non-randomized study	e were not T2DM patients	
282	M. Radenković, et al.[250]	2013	Therapeutic approach in the improvement of endothelial dysfunction: The current state of the art	Study participants were not T2DM patients	
283	R. P. Radermecker, et al.[251]	2008	Blood glucose control and cardiovascular disease in patients with type 2 diabetes. Results of ACCORD, ADVANCE and VA-Diabetis trials	The study is not in English	
284	M. B. Rehman, et al.[252]	2017	Efficacy and safety of DPP-4 inhibitors in patients with type 2 diabetes: Meta-analysis of placebo-controlled randomized clinical trials	Study design is not RCT	
285	B. Richter, et al.[253]	2006	Pioglitazone for type 2 diabetes mellitus	Study design is not RCT	
286	B. Richter, et al.[254]	2007	Rosiglitazone for type 2 diabetes mellitus	Study design is not RCT	
287	L. Robertson, et al.[255]	2014	Pharmacological treatment of vascular risk factors for reducing mortality and cardiovascular events in patients with abdominal aortic aneurysm	Study participants were not T2DM patients	
289	P. Robless, et al.[256]	2007	Cilostazol for peripheral arterial disease	Study participants were not T2DM patients	
291	I. Romon, et al.[257]	2014	The excess mortality related to cardiovascular diseases and cancer among adults pharmacologically treated for diabetes-the 2001-2006 ENTRED cohort	Study participants were not T2DM patients	
292	J. Rosenstock, et al.[258]	2015	Cardiovascular safety of linagliptin in type 2 diabetes: A comprehensive patient-level pooled analysis of prospectively adjudicated cardiovascular events	It was a pooled analysis of previously published RCTs, but this study was not a RCT	
293	A. B. Rossebo, et al.[259]	2007	Design and baseline characteristics of the simvastatin and ezetimibe in aortic stenosis (SEAS) study	Study participants were not T2DM patients	

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294	L. E. Rutqvist, et al.[260]	1992	Cardiovascular mortality in a randomized trial of adjuvant radiation therapy versus surgery alone in primary breast cancer	Study participants were not T2DM patients	
295	L. Rydén, et al.[261]	2013	ESC guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD	Study design is not RCT	
296	R. E. J. Ryder[262]	2015	Pioglitazone has a dubious bladder cancer risk but an undoubted cardiovascular benefit	Cardiovascular mortality is not an outcome	
298	M. Saad, et al.[263]	2017	Cardiovascular outcomes with sodium-glucose cotransporter-2 inhibitors in patients with type II diabetes mellitus: A meta-analysis of placebo-controlled randomized trials	Study design is not RCT	
300	P. A. Sarafidis, et al.[264]	2017	Blood pressure reduction in diabetes: lessons from ACCORD, SPRINT and EMPA-REG OUTCOME	Study design is not RCT	
301	P. A. Sarafidis and A. Tsapas[265]	2016	Empagliflozin, cardiovascular outcomes, and mortality in type 2 diabetes: To the editor	This was a letter to the editor and not an original study	
302	G. Savarese, et al.[266]	2015	Cardiovascular effects of dipeptidyl peptidase- 4 inhibitors in diabetic patients: A meta- analysis	Study design is not RCT	
303	A. J. Scheen[267]	2015	SGLT2 inhibition: efficacy and safety in type 2 diabetes treatment	Study design is not RCT	
304	A. J. Scheen[268]	2015	[EMPA-REG OUTCOME: Empagliflozin reduces mortality in patients with type 2 diabetes at high cardiovascular risk]	The study is not in English	
305	A. J. Scheen and B. Charbonnel[269]	2014	Effects of glucose-lowering agents on vascular outcomes in type 2 diabetes: A critical reappraisal	Study design is not RCT	
306	G. Schernthaner, et al.[270]	2014	Safety and efficacy of the dipeptidyl peptidase- 4 inhibitor linagliptin in elderly patients with type 2 diabetes: A comprehensive analysis of data from 1331 individuals aged≥65years	Study design is not RCT	
307	G. Schernthaner and M. H. Schernthaner- Reiter[271]	2015	Therapy: Risk of metformin use in patients with T2DM and advanced CKD	Cardiovascular mortality is not an outcome	
308	D. Schneider and J. Hsia[272]	2005	Coronary heart disease prevention in menopausal women	Study participants were not T2DM patients	
309	R. W. Schrier, et al.[273]	2007	Appropriate blood pressure control in hypertensive and normotensive type 2 diabetes mellitus: A summary of the ABCD trial	Intervention group is not OHA	
311	N. Sekercioglu, et al.[274]	2014	Culprit vessel only vs immediate complete revascularization in patients with acute ST- segment elevation myocardial infarction: systematic review and meta-analysis	Study participants were not T2DM patients	
312	A. Sharma, et al.[275]	2017	Surgical Treatment of Ischemic Mitral Study p Regurgitation: Valve Repair Versus were no Replacement patients		
313	A. Sharma, et al.[276]	2016	Role of Vorapaxar After Coronary Revascularization	Study participants were not T2DM patients	

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314	A. Sharma, et al.[277]	2014	Relationship of body mass index with total mortality, cardiovascular mortality, and myocardial infarction after coronary revascularization: evidence from a meta- analysis	Intervention group is not OHA
315	C. J. Shih, et al.[278]	2016	Comparative effectiveness of angiotensin- converting-enzyme inhibitors and angiotensin II receptor blockers in patients with type 2 diabetes and retinopathy	Intervention group is not OHA
316	M. Shkolnikova, et al.[279]	2009	Biological mechanisms of disease and death in Moscow: rationale and design of the survey on Stress Aging and Health in Russia (SAHR)	Study participants were not T2DM patients
317	V. Simha and P. Shah[280]	2012	The surgical cure for diabetes?	Intervention group is not OHA
318	A. K. Singh[281]	2014	Deciding oral drugs after metformin in type 2 diabetes: An evidence-based approach	Study design is not RCT
319	A. K. Singh[282]	2015	Polemics of pioglitazone: An appraisal in 2015	Cardiovascular mortality is not an outcome
320	S. Singh, et al.[283]	2007	Long-term risk of cardiovascular events with rosiglitazone: a meta-analysis	Study design is not RCT
321	B. Sinha and S. Ghosal[284]	2013	Pioglitazone - Do we really need it to manage type 2 diabetes?	Study design is not RCT
322	R. J. Smith, et al.[285]	2016	Evaluating the cardiovascular safety of new medications for type 2 diabetes: Time to reassess?	Study design is not RCT
323	D. Sola, et al.[286]	2015	Sulfonylureas and their use in clinical practice	Study design is not RCT
324	J. W. Son and S. Kim[287]	2015	Dipeptidyl peptidase 4 inhibitors and the risk of cardiovascular disease in patients with type 2 diabetes: A tale of three studies	Study design is not RCT
325	L. Sondergaard, et al.[288]	2016	Two-Year Outcomes in Patients With Severe Aortic Valve Stenosis Randomized to Transcatheter Versus Surgical Aortic Valve Replacement: The All-Comers Nordic Aortic Valve Intervention Randomized Clinical Trial	Study participants were not T2DM patients
326	H. Sourij, et al.[289]	2006	Effects of pioglitazone on endothelial function, insulin sensitivity, and glucose control in subjects with coronary artery disease and new- onset type 2 diabetes	Cardiovascular mortality is not an outcome
327	J. Špinar and A. Šmahelová[290]	2013	SAVOR-TIMI 53 - Saxagliptin and cardiovascular outcomes in patients with type 2 diabetes mellitus	The study is not in English
328	L. Sportiello, et al.[291]	2016	The importance of Pharmacovigilance for the drug safety: Focus on cardiovascular profile of incretin-based therapy	Study design is not RCT
329	B. T. Srinivasan and M. Davies[292]	2014	Glycaemic management of type 2 diabetes	It is review article and not RCT
330	E. Stabile, et al.[293]	2014	SAT-TAVI (single antiplatelet therapy for TAVI) study: a pilot randomized study comparing double to single antiplatelet therapy for transcatheter aortic valve implantation	Study participants were not T2DM patients

Study #	Author	Publication vear	Title	Reason for exclusion
331	E. Standl, et al.[294]	2009	The impact of glucose-lowering therapy on cardiovascular outcomes	Study design is not RCT
332	S. Steiner[295]	2016	Empagliflozin, cardiovascular outcomes, and mortality in type 2 diabetes	The study is not in English
333	J. C. Stone, et al.[296]	2015	Was there really any evidence that rosiglitazone increased the risk of myocardial infarction or death from cardiovascular causes?	Study design is not RCT
334	M. C. Stoner and D. J. Defreitas[297]	2010	Process of care for carotid endarterectomy: perioperative medical management	Study participants were not T2DM patients
335	K. Strojek, et al.[298]	2016	Empagliflozin. Results of the EMPA-REG OUTCOME trial. A breakthrough in treatment of type 2 diabetes?	Study design is not RCT
336	S. Sultan and N. Hynes[299]	S. Sultan and N.2012Cardiovascular disease: Primary prevention, disease modulation and regenerative therapy		Study participants were not T2DM patients
337	G. Targher and C. Byrne[300]	2013	Diagnosis and management of nonalcoholic fatty liver disease and its hemostatic/thrombotic and vascular complications	Study participants were not T2DM patients
338	G. Tarsia, et al.[301]	2014	Lower cardiovascular mortality with Medtronic CoreValve versus Edwards SAPIEN in patients with aortic valve stenosis undergoing transcatheter aortic valve implantation	Study participants were not T2DM patients
339	M. C. Tattersall, et al.[302]	2013	Contemporary and optimal medical management of peripheral arterial disease	Study participants were not T2DM patients
340	M. Tepel, et al.[303]	2003	The antioxidant acetylcysteine reduces cardiovascular events in patients with end- stage renal failure: a randomized, controlled trial	Study participants were not T2DM patients
341	W. J. Tietge, et al.[304]	2012	Early mitral valve repair versus watchful waiting in patients with severe asymptomatic organic mitral regurgitation; rationale and design of the Dutch AMR trial, a multicenter, randomised trial	Study participants were not T2DM patients
342	J. Timsit and D. Dubois- Laforgue[305]	2000	[Should the occurrence of a first coronary event change the management of diabetes?]	Cardiovascular mortality is not an outcome
343	Å. Tivesten, et al.[306]	2015	Cardiovascular risk with androgen deprivation therapy for prostate cancer: Potential mechanisms	Study participants were not T2DM patients
344	I. Tkáč[307]	2009	Effect of intensive glycemic control on cardiovascular outcomes and all-cause mortality in type 2 diabetes: Overview and metaanalysis of five trials	Study design is not RCT
345	D. Tousoulis, et al.[308]	2014	Diabetes mellitus and heart failure	Study design is not RCT
346	Z. Trifunovic, et al.[309]	2015	Functional recovery of patients with ischemic cardiomyopathy treated with coronary artery bypass surgery and concomitant intramyocardial bone marrow mononuclear cell implantationa long-term follow-up study	Study participants were not T2DM patients

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347	W. C. Tsai, et al.[310]	2012	Chewing areca nut increases the risk of coronary artery disease in Taiwanese men: a case-control study	Study participants were not T2DM patients	
348	G. M. Tsang, et al.[311]	1994	Pharmacological reduction of the systemically damaging effects of local ischaemia	Study participants were not T2DM patients	
349	V. Tsimihodimos, et al.[312]	2013	Summarizing the FIELD study: Lessons from a 'negative' trial	Intervention group is not OHA	
352	T. Unger and M. Stoppelhaar[313]	2007	Rationale for Double Renin-Angiotensin- Aldosterone System Blockade	Intervention group is not OHA	
353	I. C. C. van der Horst and M. W. N. Nijsten[314]	2015	Metformin in cardiac surgery: High expectations	Study participants were not T2DM patients	
354	A. Vanasse, et al.[315]	2009	Stroke and cardiovascular morbidity and mortality associated with rosiglitazone use in elderly diabetic patients	Study design is not RCT	
355	L. Vanhees, et al.[316]	2012 Importance of characteristics and modalities of physical activity and exercise in the management of cardiovascular health in individuals with cardiovascular risk factors: Recommendations from the EACPR (Part II)		Intervention group is not OHA	
356	R. Vanholder, et al.[317]	2016	Clinical management of the uraemic syndrome in chronic kidney disease	Study participants were not T2DM patients	
357	C. Varenhorst, et al.[318]	2014	Causes of mortality with ticagrelor compared with clopidogrel in acute coronary syndromes	Study participants were not T2DM patients	
358	C. Varenhorst, et al.[319]	2012	Factors contributing to the lower mortality with ticagrelor compared with clopidogrel in patients undergoing coronary artery bypass surgery	Study participants were not T2DM patients	
359	D. Varvaki Rados, et al.[320]	2016	The Association between Sulfonylurea Use and All-Cause and Cardiovascular Mortality: A Meta-Analysis with Trial Sequential Analysis of Randomized Clinical Trials	Study design is not RCT	
360	S. Verma, et al.[321]	2011	Plasma renin activity predicts cardiovascular mortality in the Heart Outcomes Prevention Evaluation (HOPE) study	Study participants were not T2DM patients	
361	R. D. Vieira, et al.[322]	2012	Effect of complete revascularization on 10- year survival of patients with stable multivessel coronary artery disease: MASS II trial	Study participants were not T2DM patients	
362	O. Vonend, et al.[323]	2015	[Renal denervation in refractory hypertension: joint statement of the German hypertension league DHL eV and the German societies of cardiology, angiology, nephrology and radiology]	Study participants were not T2DM patients	
363	M. T. Wade and J. P. Rindone[324]	2013	Myths in the treatment of type 2 diabetes: An alternative viewpoint based on randomized controlled trials	Study design is not RCT	
364	L. W. Wang, et al.[325]	2015	Prognostic value of cardiac tests in potential kidney transplant recipients: a systematic review	Study participants were not T2DM patients	

Study #	Author	Publication	Title	Reason for
		year		exclusion
365	M. Wang, et al.[326]	2014	Long-term exposure to elemental constituents of particulate matter and cardiovascular mortality in 19 European cohorts: results from the ESCAPE and TRANSPHORM projects	Intervention group is not OHA
366	J. Werzowa, et al.[327]	2015	Antidiabetic therapy in post kidney transplantation diabetes mellitus	Study design is not RCT
367	C. M. White, et al.[328]	2010	Benefits and risks associated with beta-blocker prophylaxis in noncardiac surgery	Study participants were not T2DM patients
368	W. B. White, et al.[329]	2016	Angiotensin-converting enzyme inhibitor use and major cardiovascular outcomes in type 2 diabetes mellitus treated with the dipeptidyl peptidase 4 inhibitor alogliptin	Intervention group is not OHA
369	F. Wiesbauer, et al.[330]	2007	Perioperative beta-blockers for preventing surgery-related mortality and morbidity: a systematic review and meta-analysis	Study participants were not T2DM patients
370	D. N. Wijeysundera, et al.[331]	2014	Perioperative beta blockade in noncardiac surgery: a systematic review for the 2014 ACC/AHA guideline on perioperative cardiovascular evaluation and management of patients undergoing noncardiac surgery: a report of the American College of Cardiology/American Heart Association Task Force on practice guidelines	Study participants were not T2DM patients
371	C. J. Woelk[332]	2012	Management of critical limb ischemia	Study participants were not T2DM patients
372	C. C. Wong, et al.[333]	1997	Influence of gender on cardiovascular mortality in acute myocardial infarction patients with high indication for coronary angiography	Study participants were not T2DM patients
373	P. F. Wong, et al.[334]	2011	Antiplatelet agents for intermittent claudication	Study participants were not T2DM patients
374	N. Wongcharoenkiat, et al.[335]	2012	A comparison of outcomes between percutaneous coronary intervention versus coronary artery bypass surgery in octogenarian patients	Study participants were not T2DM patients
375	S. Wu, et al.[336]	2014	Dipeptidyl peptidase-4 inhibitors and cardiovascular outcomes: Meta-analysis of randomized clinical trials with 55,141 participants	Study design is not RCT
376	B. Yanagawa, et al.[337]	2016	A systematic review and meta-analysis of in situ versus composite bilateral internal thoracic artery grafting	Intervention group is not OHA
377	M. S. Yee, et al.[338]	2010	Treatment The effects of rosiglitazone on atherosclerotic progression in patients with Type 2 diabetes at high cardiovascular risk	Cardiovascular mortality is not an outcome
378	H. Yokoyama, et al.[339]	2007	Miglitol increases the adiponectin level and decreases urinary albumin excretion in patients with type 2 diabetes mellitus	Cardiovascular mortality is not an outcome

Study #	Author	Publication	Title	Reason for
		year		exclusion
379	H. Yoshii, et al.[340]	2014	Effects of pioglitazone on macrovascular events in patients with type 2 diabetes mellitus at high risk of stroke: The profit-J study	Cardiovascular mortality is not an outcome
380	S. Yusuf, et al.[341]	2005	Effects of candesartan on the development of a new diagnosis of diabetes mellitus in patients with heart failure	Cardiovascular mortality is not an outcome
381	M. Zaugg, et al.[342]	2007	Adrenergic receptor genotype but not perioperative bisoprolol therapy may determine cardiovascular outcome in at-risk patients undergoing surgery with spinal block: the Swiss Beta Blocker in Spinal Anesthesia (BBSA) study: a double-blinded, placebo- controlled, multicenter trial with 1-year follow- up	Study participants were not T2DM patients
384	Y. Zhang, et al.[343]	2014	Lipid profiling reveals different therapeutic effects of metformin and glipizide in patients with type 2 diabetes and coronary artery disease	Intervention group is not OHA
385	F. Zhao, et al.[344]	2017	The influence of mortality rate from membrane flux for end-stage renal disease: A meta- analysis	Study participants were not T2DM patients
386	B. Zinman, et al.[345]	2014	Rationale, design, and baseline characteristics of a randomized, placebo-controlled cardiovascular outcome trial of empagliflozin (EMPA-REG OUTCOME TM)	Study design is not RCT. It was the protocol of the study
389	A. Zuccala, et al.[346]	2000	3 R study: renal outcome in renal ischemia: revascularisation or medical treatment	Study participants were not T2DM patients

Author	Year	Random Sequence Generation	Allocation Concealment	Blinding of Participants and Personnel	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Overall RoB
W. Doehner, et al.	2012	low	low	unclear	unclear	high	high	high
T. D. Giles, et al.	2010	low	low	unclear	unclear	low	low	high
T. D. Giles, et al.	2008	high	low	unclear	unclear	low	low	high
J. Hong, et al.	2013	low	low	low	low	low	low	low
B. M. Scirica, et al.	2013	low	low	unclear	unclear	high	low	high
R. Turner	1998	low	low	high	high	high	high	high
B. Zinman, et al.	2015	low	high	high	high	high	low	high
B. Gallwitz, et al.	2012	low	low	low	unclear	low	unclear	low
J. B. Green, et al.	2015	low	low	low	low	high	low	high
P. D. Home, et al.	2009	low	high	high	high	high	high	high

eTable 2. Risk of Bias Assessment

eFigure 1. Sample Search Strategy Using PubMed

Search Details

Query Transl	ation:				
"diabetes mellitus"[All Fields] OR t2dm[All Fields] OR "type 2 diabetes mellitus"[All Fields] OR (diabet[All Fields] OR diabeta[All Fields] OR diabeta'[All Fields] OR diabetacorum[All Fields] OR diabetaction[All Fields] OR diabetaeta[All Fields] OR diabetagenic[All Fields] OR diabetalogicznej[All Fields] OR diabetas[All Fields] OR diabetassotsirovannykh[All Fields] OR diabetc[All Fields] OR diabetci[All Fields] OR diabetcieza[All Fields] OR diabetcs[All Fields] OR diabetcieza[All Fields] OR diabetcs[All Fields] OR diabete[All Fields] OR diabete's[All Fields] OR diabetea[All Fields] OR					
Search	RL				
Result:					
<u>3</u>					
Translations:	Translations:				
acarbose	"acarbose"[MeSH Terms] OR "acarbose"[All Fields]				
miglitol	iglitol "miglitol"[Supplementary Concept] OR "miglitol"[All Fields]				
Database:					
PubMed					
User query:					
"diabetes mell Inhibitors" OR	itus" OR t2dm OR "type 2 diabetes mellitus" OR diabet* AND "Alpha-glucosidase acarbose OR miglitol AND "cardiovascular mortality" AND random*				

eFigure 2. Forest plot from the random-effects model for reduction in HbA1c and oral anti-diabetic drugs, comparing those were approved before and after the 2008 FDA guidance for industry



B. Zinman, et al 10mg and B. Zainman, et al 25 mg is one study where cardiovascular safety of two different strengths (10 mg and 25 mg) of empagliflozin were accessed.



eFigure 3. Funnel plot for association between oral anti-diabetic drugs and HbA1c reduction

eFigure 4. Forest plot from the random-effects model for reduction in HbA1c and oral anti-diabetic drugs, comparing different pharmacological drug classes



B. Zinman, et al 10mg and B. Zainman, et al 25 mg is one study where cardiovascular safety of two different strengths (10 mg and 25 mg) of empagliflozin were accessed

eFigure 5. Forest plot from the random-effects model for impact of oral hypoglycemic agent on cardiovascular mortality by comparator group



B. Zinman, et al 10mg and B. Zainman, et al 25 mg is one study where cardiovascular safety of two different strengths (10 mg and 25 mg) of empagliflozin were accessed





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