

Detailed Parameter Values for the Five Included Clinical Trials.

Study 1		Lv CF, Yu P, Zhou SJ, Li CJ, Lv L, Chen R, et al. Efficacy and safety of saxagliptin combined metformin in newly diagnosed type 2 diabetes mellitus patients. Chinese Journal of Diabetes Mellitus. 2013; 5: 759-762.			
Drug		SAXA+MET		ACAR+MET	
No. of patients		90		90	
Study Duration		12 week			
Baseline Demographics		Mean	SD	Mean	SD
Age (years)		44	7	44	7
Proportion female (value:0-1)		0.4833		0.4833	
Duration of diabetes (years)		Newly diagnosed		Newly diagnosed	
Height (m)		NR		NR	
Modifiable Risk Factors		Mean	SD	Mean	SD
HbA1c (%)		7.83	0.29	7.81	0.27
Total-cholesterol (mmol/L)		4.9	0.8	4.8	0.8
HDL cholesterol (mmol/L)		1.11	0.31	1.29	0.29
SBP (mmHg)		111	17	110	17
BMI (kg/m2)		30	6	30	4
Weight (kg)		82	23	82	24
Efficacy		Mean	SD	Mean	SD
HbA1c (%)	Pre-treat	7.83	0.29	7.81	0.27
	Post-treat	6.86	0.39	6.99	0.27
	Change	-0.97	0.38	-0.82	0.30
SBP (mmHg)	Pre-treat	111	17	110	17
	Post-treat	NR		NR	
Total-cholesterol (mmol/L)	Pre-treat	4.9	0.8	4.8	0.8
	Post-treat	NR		NR	
HDL cholesterol (mmol/L)	Pre-treat	1.11	0.31	1.29	0.29
	Post-treat	NR		NR	
BMI (kg/m2)	Pre-treat	30	6	30	4
	Post-treat	29	5	29	4
	change	-1.00	6.08	-1.00	4.38
Weight (kg)	Pre-treat	82	23	82	24
	Post-treat	80	22	80	23
	Change	-2.00	24.66	-2.00	25.76
Adverse Events		Mean	SD	Mean	SD
Hypoglycemia	Probability	0.0111		0.0111	
Gastrointestinal discomfort	Probability	0		0.133	

Study 2		Qian D. Efficacy and safety of saxagliptin combined with metformin in the treatment of the patients with newly diagnosed type 2 diabetes. Chinese Journal of Coal Industry Medicine. 2015; 18: 23-26, 27.			
Drug		SAXA+MET		ACAR+MET	
No. of patients		47		47	
Study Duration		12 Week			
Baseline Demographics		Mean	SD	Mean	SD
Age (years)		40.8	5.9	42.6	6.3
Proportion female (value:0-1)		0.34		0.38	
Duration of diabetes (years)		0.3917	0.075	0.4167	0.1
Height (m)		NR		NR	
Modifiable Risk Factors		Mean	SD	Mean	SD
HbA1c (%)		7.3	0.9	7.7	1.1
Total-cholesterol (mmol/L)		4.7	0.9	4.5	0.7
HDL cholesterol (mmol/L)		NR		NR	
SBP (mmHg)		109.5	13.2	112.4	14
BMI (kg/m2)		29.8	7.4	29.6	7.3
Weight (kg)		80.7	7.1	80.2	7
Efficacy		Mean	SD	Mean	SD
HbA1c (%)	Pre-treat	7.3	0.9	7.7	1.1
	Post-treat	6.5	0.4	6.8	0.7
	Change	-0.8	0.83	-0.9	1.04
SBP (mmHg)	Pre-treat	109.5	13.2	112.4	14
	Post-treat	NR		NR	
Total-cholesterol (mmol/L)	Pre-treat	4.7	0.9	4.5	0.7
	Post-treat	NR		NR	
HDL cholesterol (mmol/L)	Pre-treat	NR		NR	
	Post-treat	NR		NR	
BMI (kg/m2)	Pre-treat	29.8	7.4	29.6	7.3
	Post-treat	30.6	7.6	29	7.2
	change	0.8	8.2175	-0.6	7.9424
Weight (kg)	Pre-treat	80.7	7.1	80.2	7
	Post-treat	79.3	6.9	80.3	7.2
	Change	-1.40	7.67	0.10	7.78
Adverse Events		Mean	SD	Mean	SD
Hypoglycemia	Probability	0.0213		0.0213	
Gastrointestinal discomfort	Probability	NR		NR	

Study 3		Wang MM, Lin S, Chen YM, Shu J, Lu HY, Zhang YJ, et al. Saxagliptin is similar in glycaemic variability more effective in metabolic control than acarbose in aged type 2 diabetes inadequately controlled with metformin. Diabetes Res Clin Pract. 2015; 108: e67-e70.			
Drug		SAXA+MET		ACAR+MET	
No. of patients		41		40	
Study Duration		1 Year			
Baseline Demographics		Mean	SD	Mean	SD
Age (years)		64.3	2.6	65.1	3.1
Proportion female (value:0-1)		0.56		0.53	
Duration of diabetes (years)		12.3	4.5	14.2	4.2
Height (m)		NR		NR	
Modifiable Risk Factors		Mean	SD	Mean	SD
HbA1c (%)		8.26	0.49	8.30	0.37
Total-cholesterol (mmol/L)		5.62	1.35	5.53	1.53
HDL cholesterol (mmol/L)		1.13	0.36	1.20	0.38
SBP (mmHg)		NR		NR	
Weight (kg)		65.2	8.8	63.9	9.7
Efficacy		Mean	SD	Mean	SD
HbA1c (%)	Pre-treat	8.26	0.49	8.30	0.37
	Post-treat	7.44	0.36	7.61	0.38
	Change	-0.82	0.48	-0.69	0.41
SBP (mmHg)	Pre-treat	NR		NR	
	Post-treat	NR		NR	
Total-cholesterol (mmol/L)	Pre-treat	5.62	1.35	5.53	1.53
	Post-treat	5.13	1.27	5.35	1.46
	Change	-0.49	1.44	-0.18	1.64
HDL cholesterol (mmol/L)	Pre-treat	1.13	0.36	1.20	0.38
	Post-treat	1.17	0.35	1.19	0.42
	Change	0.04	0.39	-0.01	0.44
Weight (kg)	Pre-treat	65.2	8.8	63.9	9.7
	Post-treat	63.4	5.6	63.1	7.9
	Change	-1.80	8.33	-0.80	9.76
Adverse Events		Mean	SD	Mean	SD
Hypoglycemia	Probability	0.05		0	

Gastrointestinal discomfort	Probability	0		0.0444	
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Study 4		Qiao Y, Zhao J, He M, Wang X. Effect of metformin combined with saxagliptin on insulin resistance of newly diagnosed patients with type 2 diabetes. Journal of Practical Diabetology. 2016; 12: 48-50.			
Drug		SAXA+MET		ACAR+MET	
No. of patients		40		40	
Study Duration		12 Week			
Baseline Demographics		Mean	SD	Mean	SD
Age (years)		51.4	12.1	50.6	14.2
Proportion female (value:0-1)		0.45		0.45	
Duration of diabetes (years)		Newly diagnosed		Newly diagnosed	
Height (m)		NR		NR	
Modifiable Risk Factors		Mean	SD	Mean	SD
HbA1c (%)		8.6	1.9	8.5	2.1
Total-cholesterol (mmol/L)		5.06	0.68	5.1	0.75
HDL cholesterol (mmol/L)		0.91	0.56	0.93	0.43
SBP (mmHg)		128	14	124	16
BMI (kg/m2)		24.4	5.5	23.8	4.2
Weight (kg) (calculated by: weight=BMI*height^2, height assumed to be 1.64 m)		65.63	14.79	64.01	11.30
Efficacy		Mean	SD	Mean	SD
HbA1c (%)	Pre-treat	8.6	1.9	8.5	2.1
	Post-treat	6.7	2	6.9	2.3
	Change	-1.9	2.14	-1.6	2.42
SBP (mmHg)	Pre-treat	128	14	124	16
	Post-treat	123	16	122	15
	Change	-5	16.52	-2	17.00
Total-cholesterol (mmol/L)	Pre-treat	5.06	0.68	5.1	0.75
	Post-treat	5.01	0.66	4.98	0.78
	Change	-0.05	0.73	-0.12	0.84
HDL cholesterol (mmol/L)	Pre-treat	0.91	0.56	0.93	0.43
	Post-treat	1.02	0.61	0.98	0.56
	Change	0.11	0.64	0.05	0.55
BMI (kg/m2)	Pre-treat	24.4	5.5	23.8	4.2

	Post-treat	22	6.3	23.4	5.8
	change	-2.4	6.50	-0.4	5.64
Weight (kg) (calculated by: weight=BMI*height ² , height assumed to be 1.64 m)	Pre-treat	65.63	14.79	64.01	11.30
	Post-treat	59.17	16.94	62.94	15.60
	Change	-6.46	17.48	-1.08	15.17
Adverse Events		Mean	SD	Mean	SD
Hypoglycemia	Probability	0		0	
Gastrointestinal discomfort	Probability	0		0.075	

Study 5		Wang W, Chen Y, Qian T, Yao W. Effect of saxagliptin combined with metformin on blood glucose, blood pressure and glycosylated hemoglobin of aged patients with type 2 diabetes. Chinese Journal of Gerontology. 2016; 36: 332-333.			
Drug		SAXA+MET		ACAR+MET	
No. of patients		40		40	
Study Duration		12 Week			
Baseline Demographics		Mean	SD	Mean	SD
Age (years)		71.1	6.1	72.1	4.6
Proportion female (value:0-1)		0.4		0.425	
Duration of diabetes (years)		2.3	1.2	2.5	2.1
Height (m)		NR		NR	
Modifiable Risk Factors		Mean	SD	Mean	SD
HbA1c (%)		7.2	1.22	7.6	3.25
Total-cholesterol (mmol/L)		NR		NR	
HDL cholesterol (mmol/L)		NR		NR	
SBP (mmHg)		132.2	8.21	134.5	7.12
BMI (kg/m2)		23.5	4.65	22.7	3.86
Weight (kg) (calculated by: weight=BMI*height^2, height assumed to be 1.64 m)		63.21	12.51	61.05	10.38
Efficacy		Mean	SD	Mean	SD
HbA1c (%)	Pre-treat	7.2	1.22	7.6	3.25
	Post-treat	5.4	2.44	6.9	3.53
	Change	-1.8	2.25	-0.7	3.7209
SBP (mmHg)	Pre-treat	132.2	8.21	134.5	7.12
	Post-treat	131.3	7.65	132.7	6.98
	Change	-0.9	8.70	-1.8	7.7238

Total-cholesterol (mmol/L)	Pre-treat	NR		NR	
	Post-treat	NR		NR	
HDL cholesterol (mmol/L)	Pre-treat	NR		NR	
	Post-treat	NR		NR	
BMI (kg/m2)	Pre-treat	23.5	4.65	22.7	3.86
	Post-treat	23.2	5.57	23.1	4.76
	change	-0.3	5.65	0.4	4.78
Weight (kg) (calculated by: weight=BMI*height², height assumed to be 1.64 m)	Pre-treat	63.21	12.51	61.05	10.38
	Post-treat	62.40	14.98	62.13	12.80
	Change	-0.81	15.20	1.08	12.86
Adverse Events		Mean	SD	Mean	SD
Hypoglycemia	Probability	NR		NR	
Gastrointestinal discomfort	Probability	NR		NR	

ACAR, acarbose; BMI, body mass index; HbA1c, glycated hemoglobin; HDL, high-density lipoprotein; MET, metformin; NR, not reported; SAXA, saxagliptin; SBP, systolic blood pressure.

^a Mean height of the cohort in the model assumed to be 1.64 m, which is obtained from National Physique Monitoring Bulletin (2014).

^b For studies 4 and 5, which only provided BMI, weight was calculated by: weight=BMI*height², and height was assumed to be 1.64 m.

^c Mean treatment effect on HbA1c/weight/SBP/TC= Mean_{post-treat} - Mean_{post-treat} (HbA1c/weight/SBP/TC); SD of treatment effect on HbA1c/weight/SBP/TC = $\sqrt{SD_{pre-treat}^2 + SD_{post-treat}^2 - 2*0.4*SD_{pre-treat}*SD_{post-treat}}$.