

Supplementary Table S1. Comparison of baseline characteristics of patients with undiagnosed compared to known or no Diabetes treated with open surgical or endovascular abdominal aortic aneurysm repair. The Norwegian Abdominal Aortic Aneurysm and Diabetes (ABANDIA) study.

Characteristics	All patients (n=877)	No Diabetes (n=748)	Diabetes		<i>p value</i> ^a	
			Known (n=97)	Undiagnosed (n=32)	Undiagnosed vs. No DM	Undiagnosed vs. known DM
Age - years	73.3 (7.0) [51-94]	73.4 (7.1) [52-94]	72.5 (6.4) [51-88]	73.3 (6.8) [57-88]	0.94	0.56
Gender					0.77	0.06
Female	142 (16.2)	132 (17.6)	5 (5.2)	5 (15.6)		
Male	735 (83.8)	616 (82.4)	92 (94.8)	27 (84.4)		
BMI - kg/m ²	26.9 (4.2) [15.9-45.5]	26.5 (4.1) [15.9-42.9]	28.6 (4.2) [19.4-45.5]	28.9 (4.6) [17.6-38.1]	0.001	0.70
Missing	3 (0.3)	3 (0.4)	0	0		
HbA _{1c} - mmol/mol	40.6 (7.6) [20-135]	38.6 (3.7) [20-47]	51.4 (10.7) [32-87]	55.5 (16.0) [48-135]	< 0.001	0.10
Total cholesterol - mmol/L	4.2 (1.0) [1.3-8.6]	4.2 (1.0) [1.3-8.6]	3.8 (0.90) [1.4-6.6]	3.8 (0.9) [2.4-5.8]	0.04	0.98
Missing	39 (4.4)	35 (4.7)		1(		
LDL cholesterol - mmol/L	2.5 (0.97) [0.7-6.9]	2.6 (1.0) [0.7-6.9]	2.2 (0.8) [0.8-4.9]	2.2 (0.7) [1.2-4.0]	0.09	0.75
Missing	49 (5.6)	44 (5.9)	3	2		
HDL cholesterol - mmol/L	1.3 (0.4) [0.4-4.1]	1.3 (0.4) [0.4-4.1]	1.2 (0.4) [0.6-2.6]	1.2 (0.3) [0.7-1.8]	0.07	0.90
Missing	65 (7.4)	58 (7.8)		1		
Aortic diameter - cm	58.4 (7.8) [31-120]	58.2 (7.8) [31-120]	59.8 (8.6) [42-103]	57.7 (4.8) [42-68]	0.68	0.19
Surgical intervention					0.64	0.72
Open repair	458 (52.2)	389 (52.0)	51 (52.6)	18 (56.3)		
Endovascular repair	419 (47.8)	359 (48.0)	46 (47.4)	14 (43.8)		
Smoking status					0.08	0.15
Non-smoker	113 (13.1)	99 (13.5)	12 (12.4)	2 (6.3)		
Former smoker	539 (62.5)	453 (61.6)	60 (61.9)	26 (81.3)		
Current smoker	211 (24.4)	183 (24.9)	24 (24.7)	4 (12.5)		
Missing	14 (1.6)	15 (2.0)				
Renal function					0.16	0.09

Supplementary tables. The Norwegian Abdominal Aortic Aneurysm and Diabetes study.

eGFR $\geq$ 60	670 (76.4)	571 (76.3)	70 (72.2)	29 (90.6)		
eGFR 30–60	192 (21.9)	166 (22.2)	23 (23.7)	3 (9.4)		
eGFR < 30	15 (1.7)	11 (1.5)	4 (4.1)	0		
Missing	0	0	0	0		
Medical history of cerebrovascular disease					0.53	0.31
No	784 (89.4)	679 (90.8)	77 (79.4)	28 (87.5)		
Yes	93 (10.6)	69 (9.2)	20 (20.6)	4 (12.5)		
Missing	0	0	0	0		
Medical history of coronary artery disease					0.008	0.28
No	611 (69.7)	536 (71.7)	59 (60.8)	16 (50)		
Yes	266 (30.3)	212 (28.3)	38 (39.2)	16 (50)		
Missing	0	0	0	0		
Medical history of peripheral artery disease					0.24	0.92
No	764 (87.1)	660 (88.2)	78 (80.4)	26 (81.3)		
Yes	113 (12.9)	88 (11.8)	19 (19.6)	6 (18.8)		
Missing	0	0	0	0		
Antihypertensive medication					0.69	0.55
No	238 (27.2)	211 (28.2)	19 (19.6)	8 (25.0)		
Yes	636 (72.8)	536 (71.8)	76 (78.4)	24 (75)		
Missing	3 (0.3)	1 (0.1)	2 (2.1)	0		
Statin					0.51	0.68
No	199 (22.7)	178 (23.8)	15 (15.5)	6 (18.8)		
Yes	677 (77.3)	570 (76.2)	81 (83.5)	26 (81.3)		
Missing	1 (0.1)	0	1	0		
Anti-platelet/anticoagulant therapy					0.27	0.62
No	204 (23.3)	180 (24.1)	19 (19.6)	5 (15.6)		
Yes	673 (76.7)	568 (75.9)	78 (80.4)	27 (84.4)		
Missing	0	0	0	0		
Best medical treatment					0.14	0.78
No	450 (51.7)	401 (53.9)	36 (37.1)	13 (40.6)		
Yes	421 (48.3)	343 (46.1)	59 (60.8)	19 (59.4)		
Missing	6 (0.7)	4 (0.5)	2	0		

Data are presented as n (%), mean $\pm$ standard deviation (SD) and [range]. ^a*Chi-square test for categorical variables and independent samples t-test for continuous variables.* BMI = body mass index. LDL= low density lipoprotein. HDL = high density lipoprotein. eGFR = estimated glomerular filtration rate calculated by the CKD EPI Equation. **Best medical treatment was defined as a combination of statin, antihypertensive medication, and anti-platelet/anticoagulant therapy.**

Table S2. Comparison of baseline characteristics between 877 patients in the ABANDIA study group and 823 patients from the Norwegian vascular registry (NORKAR) following elective infrarenal abdominal aortic surgery (OSR or EVAR).

Characteristics	All patients n=1700	The Abandia study group n= 877	The Norkar control group n=823	<i>P</i> ^a
Age - years	73.8 (7.5) [50-95]	73.3 (7.0) [51-94]	74.4 (8.0) [50-95]	.004
Gender				0.032
Female	310 (18.2)	143 (16.3)	167 (20.3)	
Male	1392 (81.8)	736 (83.9)	656 (79.7)	
BMI mean - kg/m ²	26.9 (4.4) [15.7-54.7]	26.9 (4.2) [15.9-54.7]	26.8 (4.6) [15.7-44.8]	0.846
Missing	174 (10.2)	73 (8.3)	101 (12.3)	
HbA _{1c} - mol/mol	40.7 (7.7) [20-135]	40.6 (7.6) [20-135]	41.0 (8.0) [26-84]	0.435
Missing	379 (22.3)	0	379 (46.0)	
Known DM	207 (12.2)	97 (11.0)	110 (13.4)	0.142
Total cholesterol – mmol/L	4.2 (1.1) [0.8-11.6]	4.1 (1.0) [1.1-8.6]	4.2 (1.1) [0.8-11.6]	0.448
Missing	347 (30.0)	93 (10.6)	128 (15.6)	
LDL – mmol/L	2.5 (1.0) [0.7-8.8]	2.4 (1.0) [0.7-6.9]	2.6 (1.0) [0.7-8.8]	0.042
Missing	621 (53.8)	244 (27.8)	368 (44.7)	
Aortic diameter - mm	59.0 (8.7)	58.4 (7.8)	59.7 (9.5)	.002

Supplementary tables. The Norwegian Abdominal Aortic Aneurysm and Diabetes study.

	[30-120]	[31-120]	[30-120]	
Surgical intervention				.000
Open repair	782 (45.9)	458 (52.1)	324 (39.4)	
Endovascular repair	920 (54.1)	421 (47.9)	499 (60.6)	
Smoking status				0.023
Non-smoker	269 (15.8)	122 (14.6)	147 (18.8)	
Former/current smoker	1347 (79.2)	713 (85.4)	634 (81.2)	
Missing	86 (5.1)	44 (5.0)	42 (5.1)	

Data are presented as n (%), mean $\pm$ standard deviation (SD) and [range]. BMI = body mass index. LDL= low density lipoprotein. ^a Comparison between the diabetes and non-diabetes group. Chi-square test for categorical variables and independent samples t-test for continuous variables. Baseline characteristics are based on NORKAR registry values.

Table S3. Comparison of comorbidities and medical treatment between the 877 patients in the ABANDIA study group and the 823 patients from the Norwegian vascular registry (NORKAR).

Characteristics	All patients n= 1700	Abandia study group n= 877	Control group n= 823	p ^a
Medical history of cardiovascular disease				0.928
No	1505 (88.5)	777 (88.5)	728 (88.5)	
Yes	195 (11.5)	100 (11.4)	95 (11.5)	
Missing	0			
Medical history of heart disease*				0.761
No	1002 (58.9)	520 (59.3)	482 (58.6)	
Yes	698 (41.1)	357 (40.7)	341 (41.4)	
Missing	0			
Former vascular surgery				0.753
No	1537 (90.4)	791 (90.2)	746 (90.6)	

Supplementary tables. The Norwegian Abdominal Aortic Aneurysm and Diabetes study.

Yes	163 (9.6)	86 (9.8)	77 (9.4)	
Missing	0			
Hypertension				0.468
No	701 (41.2)	369 (42.1)	332 (40.3)	
Yes	999 (58.8)	508 (57.9)	491 (59.7)	
Missing	0			
Lung disease				0.889
No	1209 (71.1)	625 (71.3)	584 (71.0)	
Yes	491 (28.9)	252 (28.7)	239 (29.0)	
Missing	0			
Atrial fibrillation				0.555
No	1462 (86.0)	750 (85.5)	712 (86.5)	
Yes	238 (14.0)	127 (14.5)	111 (13.5)	
Missing	0			
Statin				0.860
No	388 (22.8)	199 (22.7)	189 (23.1)	
Yes	1307 (76.9)	677 (77.3)	630 (76.9)	
Missing	5 (0.3)	1 (0.1)	4 (0.5)	
Anti-platelet/ anticoagulant therapy				0.171
No	417 (24.5)	203 (23.1)	214 (26.0)	
Yes	1283 (75.5)	674 (76.9)	609 (74.0)	
Missing	0			

Data are presented as n (%). ^a The Chi-squared test were used for comparison between the diabetes and non-diabetes group. *Heart disease: coronary artery disease and/or heart failure and/or valvular disease.

Table S4: Multiple logistic regression for predicting organ-related complications ($n = 854$).

Characteristic	OR [†]	95% CI [†]	P-value
Age (non-linear effect)	—	—	0.11
Female sex	2.26	1.11, 4.41	0.02
BMI (non-linear effect)	—	—	0.04
Smoking			0.73
Never smoker	—	—	
Previous smoker	1.27	0.51, 3.88	0.64
Current smoker	1.00	0.35, 3.29	> 0.99
Number of comorbidities	1.46	1.14, 1.88	.003
Best medical treatment	0.96	0.54, 1.70	0.88
Type of surgery: EVAR	0.11	0.05, 0.25	< 0.001
Diabetes	1.40	0.62, 2.91	0.39

[†] OR = Odds Ratio, CI = Confidence Interval

Table S5: Multiple logistic regression for predicting procedure-related complications ($n = 854$).

Characteristic	OR [†]	95% CI [†]	P-value
Age (non-linear effect)	—	—	0.43
Female sex	1.10	0.54, 2.09	0.78
BMI (non-linear effect)	—	—	0.52
Smoking			0.31
Never smoker	—	—	
Previous smoker	1.85	0.82, 4.96	0.17
Current smoker	1.47	0.57, 4.29	0.45
Number of comorbidities	1.22	0.99, 1.51	0.065
Best medical treatment	1.00	0.60, 1.64	> 0.99
Type of surgery: EVAR	0.52	0.30, 0.90	0.022
Diabetes	1.44	0.73, 2.68	0.27

[†] OR = Odds Ratio, CI = Confidence Interval

Post-hoc analyses for organ-related complications (suppl. for Table 3)

In the pre-planned regression analysis in the main paper, comorbidity was defined as the number of comorbidities (out of seven) and included as a linear term. The results showed that the number of comorbidities was strongly associated with a higher odds of organ-related complications.

Here we present a post-hoc analysis where the aim is to discover whether there are *specific types* of comorbidities which are associated with these complications. We group the seven comorbidity variables into four major groups and treat them as binary variables:

Group	Comorbidity
Cardiovascular disease	Coronary disease OR Transient ischemic attack (TIA) OR Known peripheral vascular disease
Lung disease	Lung disease
Kidney disease	Kidney disease
Arrhythmia	Atrial fibrillation OR Other arrhythmia

In this post-hoc analysis, we also split the DM group into two subgroups, ‘DM (not previously known)’ and ‘DM (previously known)’. This is based on an observation that there were more comorbidities in patients with newly diagnosed diabetes.

Table 3 (copy): Post-hoc multiple logistic regression for predicting organ-related complications, with separate comorbidity variables and DM status split into three groups ($n = 854$).

Characteristic	OR ¹	95% CI ¹	P-value
Age (non-linear effect)	—	—	0.06
Female sex	2.03	0.99, 4.03	0.05
BMI (non-linear effect)	—	—	0.09
Smoking			0.90
Never smoker	—	—	
Previous smoker	0.97	0.38, 3.01	0.95
Current smoker	0.83	0.29, 2.79	0.75
Best medical treatment	1.17	0.63, 2.15	0.62
Type of surgery: EVAR	0.12	0.05, 0.26	< 0.001
Comorb.: Cardiovascular disease	0.96	0.51, 1.80	0.90
Comorb.: Lung disease	3.29	1.80, 6.07	< 0.001
Comorb.: Kidney disease	1.81	0.86, 3.64	0.11
Comorb.: Arrhythmia	1.31	0.58, 2.76	0.50
Diabetes			0.03
None	—	—	
DM (not previously known)	4.92	1.53, 14.3	0.005
DM (previously known)	0.82	0.23, 2.23	0.73

¹ OR = Odds Ratio, CI = Confidence Interval