

Electronic Supplemental Materials:

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**Three-vessel coronary artery disease may predict changes in
biochemical brain injury markers after off-pump
coronary artery bypass grafting[#]**

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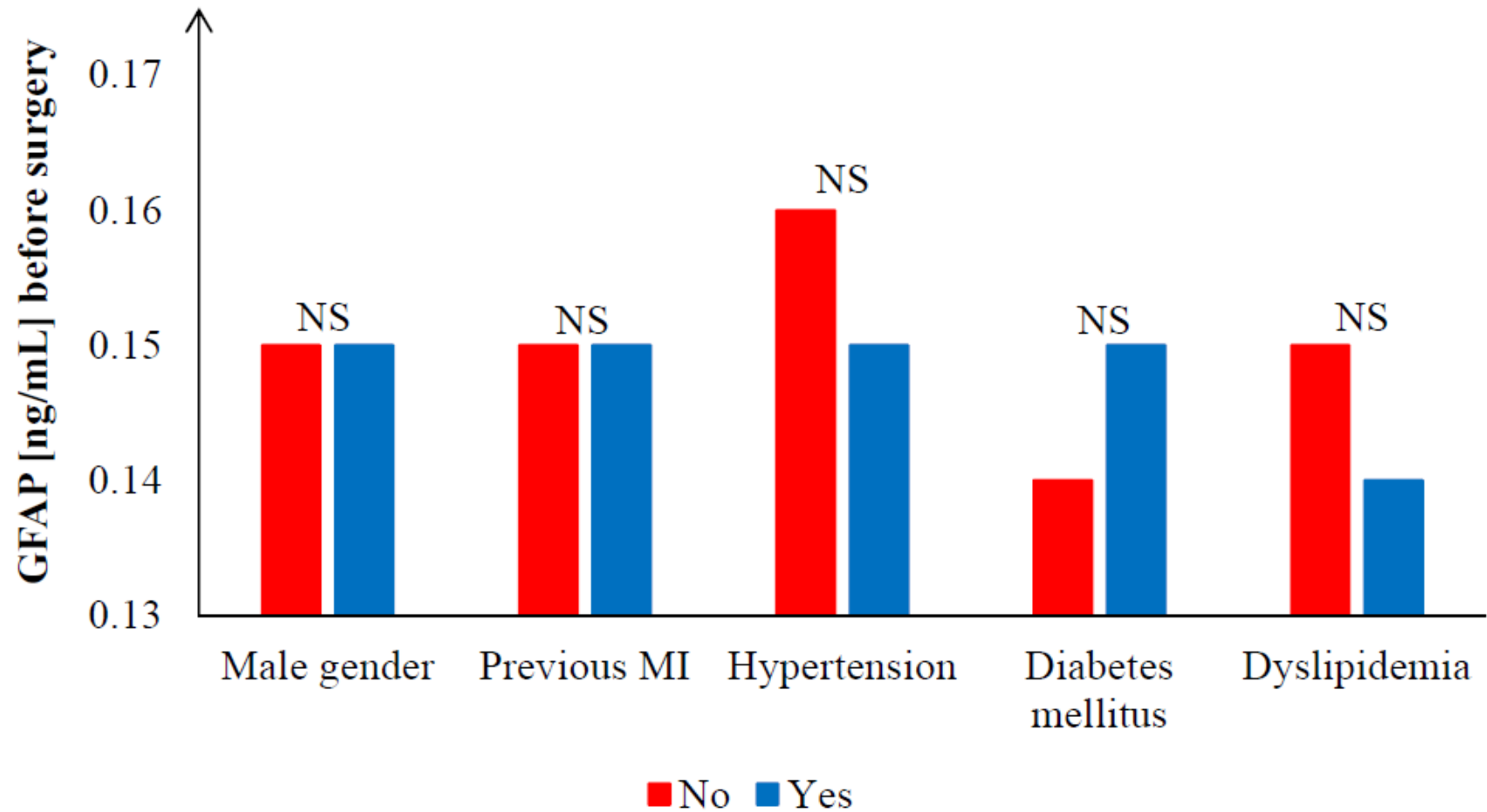


Fig. S1 Serum levels of GFAP before surgery in patients stratified by sex and comorbidities

GFAP: glial fibrillary acidic protein; MI: myocardial infarction; NS: non-statistically significant

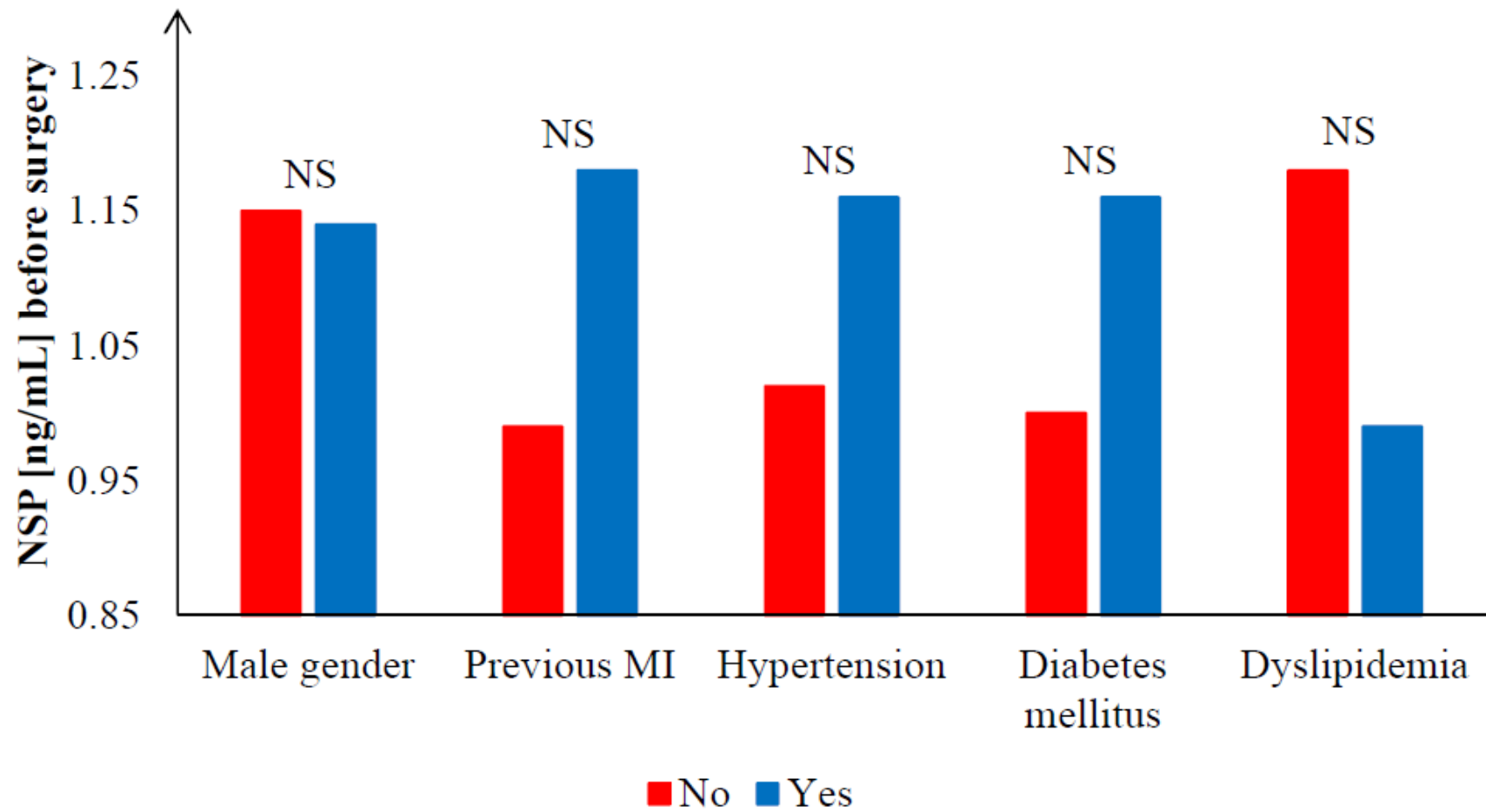


Fig. S2 Serum levels of NSP before surgery in patients stratified by sex and comorbidities

NSP: neuroserpin; MI: myocardial infarction; NS: non-statistically significant

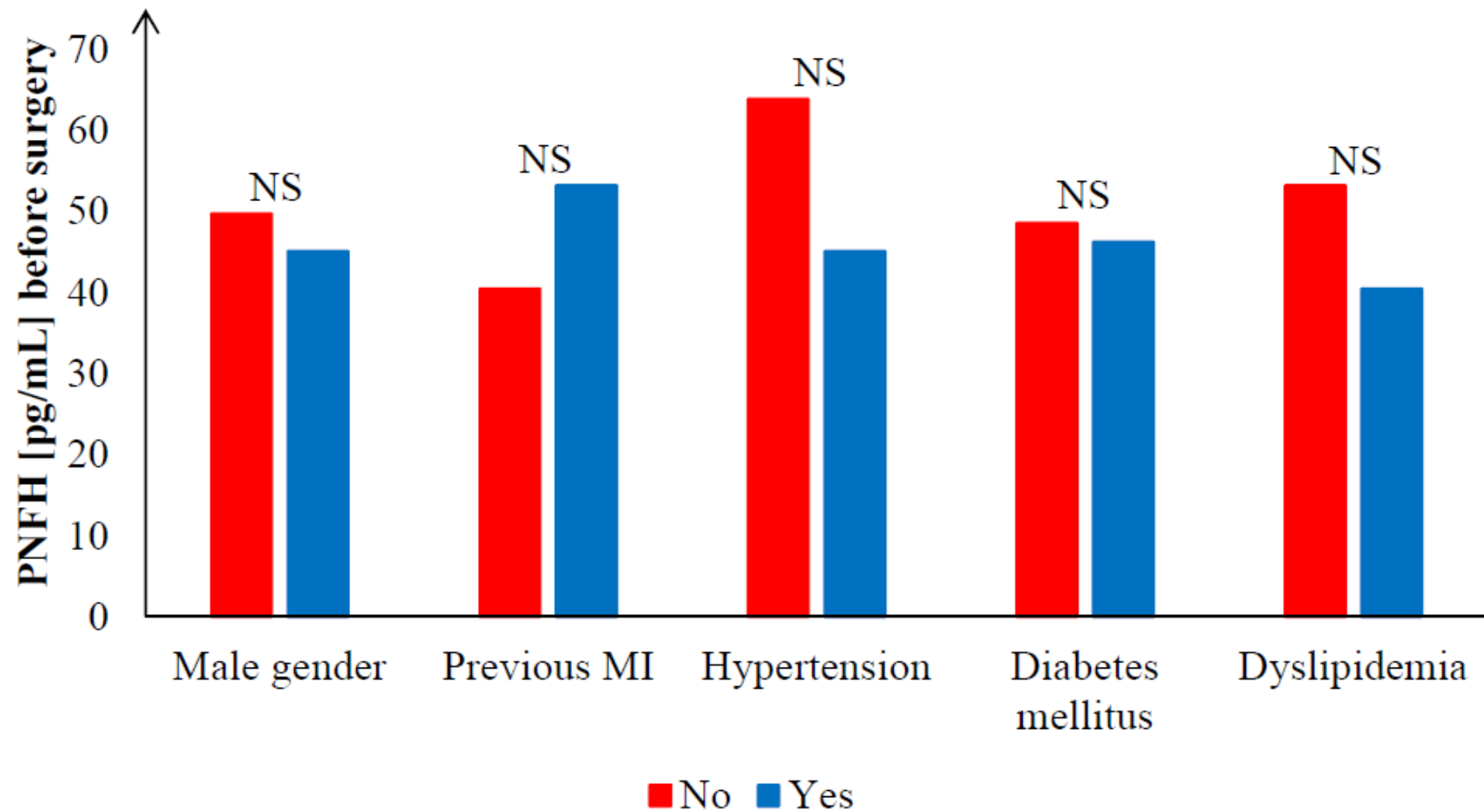


Fig. S3 Serum levels of PNFH before surgery in patients stratified by sex and comorbidities

PNFH: phosphorylated axonal neurofilament subunit H; MI: myocardial infarction; NS: non-statistically significant

Table S1 Correlations of preoperative GFAP, NSP, and PNFH serum levels with clinical parameters in whole cohort and in the non-3VD and 3VD groups

	Whole cohort		Whole cohort		Whole cohort	
	Non-3VD	3VD	Non-3VD	3VD	Non-3VD	3VD
Parameter	GFAP [ng/mL] before surgery		NSP [ng/mL] before surgery		PNFH [pg/mL] before surgery	
R						
P						
Age (years)	-0.4 0.03		0.3 0.13		-0.009 0.96	
	-0.06 0.88	-0.5 0.01	0.3 0.40	0.2 0.27	0.2 0.66	-0.02 0.91
BMI (kg/m ²)	-0.02 0.93		0.08 0.67		-0.2 0.19	
	-0.2 0.56	0.1 0.64	0.3 0.38	0.01 0.94	-0.6 0.12	-0.1 0.65
LVEF (%)	0.2 0.25		0.06 0.73		0.3 0.13	
	0.3 0.37	0.2 0.37	-0.1 0.76	0.1 0.53	0.4 0.27	0.2 0.34
EuroSCORE	-0.3 0.11		-0.17 0.38		-0.2 0.40	
	-0.3 0.48	-0.3 0.23	-0.6 0.14	-0.04 0.86	-0.08 0.83	-0.2 0.38

Pre-operative sCr (mg/dL)	0.04 0.84		-0.2 0.32		0.02 0.91	
	-0.3 0.43	0.1 0.56	-0.2 0.68	-0.1 0.59	-0.09 0.82	0.03 0.88
Duration of surgery (mins)	-0.2 0.26		-0.2 0.24		-0.2 0.29	
	-0.4 0.26	-0.06 0.78	-0.2 0.63	-0.3 0.11	-0.2 0.60	-0.2 0.39
Number of bypass grafts	-0.01 0.94		-0.06 0.74		0.005 0.98	
	-0.3 0.53	0.1 0.64	0.1 0.77	-0.05 0.80	-0.5 0.20	0.08 0.71
Intubation time (hrs)	-0.2 0.30		0.04 0.84		0.03 0.86	
	0.6 0.12	-0.4 0.10	-0.02 0.97	0.1 0.55	0.7 0.03	-0.1 0.54
RR-S min (mmHg)	0.2 0.30		-0.2 0.30		-0.3 0.15	
	0.5 0.17	0.1 0.66	0.3 0.50	-0.4 0.09	0.1 0.72	-0.3 0.17
RR-D min (mmHg)	-0.2 0.26		-0.03 0.90		-0.4 0.06	
	-0.6 0.06	-0.07 0.77	-0.02 0.96	-0.03 0.90	-0.5 0.22	-0.3 0.14
HGB min (g/L)	0.07 0.70		-0.04 0.81		0.04 0.81	
	0.03 0.94	0.07 0.76	-0.9 0.00009	0.2 0.33	0.2 0.56	-0.02 0.91

HCT min (%)	0.07 0.70		-0.06 0.72		0.01 0.94	
	0.1 0.75	0.05 0.81	-0.9 0.0003	0.1 0.51	0.3 0.38	-0.07 0.73
Days in intensive care unit	-0.03 0.86		0.2 0.38		-0.08 0.67	
	0.4 0.34	-0.2 0.41	0.009 0.98	0.2 0.43	0.6 0.09	-0.4 0.08
GFAP [ng/mL] before surgery			0.06 0.75		0.6 0.0005	
			-0.1 0.70	0.1 0.58	0.8 0.008	0.5 0.009
NSP [ng/mL] before surgery	0.06 0.75				0.2 0.25	
	-0.1 0.70	0.1 0.58			-0.4 0.35	0.3 0.10
PNFH [pg/mL] before surgery	0.6 0.0005		0.2 0.25			
	0.8 0.008	0.5 0.009	-0.4 0.35	0.3 0.10		

Abbreviation: 3VD: three-vessel coronary artery disease, GFAP: glial fibrillary acidic protein, NSP: neuroserpin, PNFH: phosphorylated axonal neurofilament subunit H, R: Spearman's rank correlation coefficient, p: probability value, BMI: body mass index, LVEF: left ventricular ejection fraction, sCr: serum creatinine, RR-S min: minimal level of systolic blood pressure during surgery, RR-D min: minimal level of diastolic blood pressure during surgery, HGB: hemoglobin, HCT: hematocrit. Bolded values indicate the statistically significant correlations

Table S2 Comparison of median or mean levels of GFAP among healthy controls

First author	Year of publication	Number of healthy individuals	Type of biological material	Analytical method	Median or mean GFAP levels [ng/mL]
Steiner, J.	2006	17	serum	ELISA (BioVendor)	0.18
Jung, C.S.	2007	50	serum	ELISA (BioVendor)	0
Papa, L.	2012	176	serum	ELISA (in house)	0.01
Ren, C.	2016	57	serum	ELISA (in house)	0.004

ELISA: enzyme-linked immunosorbent assay; GFAP: glial fibrillary acidic protein

References to Table 2:

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Papa, L., Lewis, L.M., Falk, J.L., *et al.*, 2012. Elevated levels of serum glial fibrillary acidic protein breakdown products in mild and moderate traumatic brain injury are associated with intracranial lesions and neurosurgical intervention. *Ann Emerg Med*, **59**(6):471-483.

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Ren, C., Kobeissy, F., Alawieh, A., *et al.*, 2016. Assessment of serum UCH-L1 and GFAP in acute stroke patients. *Sci Rep*, **6**:24588.

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