ASSESSMENT OF PSYCHOSOCIAL FACTORS DURING PREOPERATIVE RISK STRATIFICATION IN PATIENTS UNDERGOING VASCULAR SURGERY

Róth Gy¹, Czobor N.R.¹, Holndonner-Kirst E.¹, Tóth K.³, Gál J.², Székely A.²

¹Semmelweis University Budapest, School of Doctoral Studies
²Semmelweis University Budapest, Dept. of Anaesthesiology & Intensive Care
³Semmelweis University Budapest, Faculty of Medicine

Background and Goal of study

- Preoperative risk-scoring systems:
 - EuroSCORE II, STS, POSSUM, Parsonnet
 - Limitations due to weighting of chronological age and medical diagnoses without the evaluation of the biological status
 - Especially little differentiation in an ageing population
- Frailty
 - a measure of vulnerability due to decreased homeostatic reserve
 - Measurement of frailty (MFC, SPPB, 35 item FI)
 - Underrepresentation of cognitive and psychosocial factors
- This study represents preliminary results of our efforts identifying these factors and to create an expanded risk-scoring system

Methods

- Prospectively collected data of 164 patients undergoing vascular surgery between 2014-2017 in the Heart and Cardiovascular Center of Semmelweis University – Budapest

Questionnaire	Study Endpoints
PHYSICAL STATUS age, comorbidity, type of surgery, BMI, complaints, lab results, medication, scores	PERIOPERATIVE DATA <ul style="list-style-type: none">• Intraoperative parameters• Intraoperative complications• Postoperative complications• Number of reoperations• Time of mech. ventilation• Time of ICU/hospital stay• Mortality
PSYCHOSOCIAL STATUS <ul style="list-style-type: none">• Hungarostudy Query 2013• Geriatric Depression scale (GDS score)• Beck's Depression Inventory (BDI score)• State-Trait Anxiety Inventory (SAI/TAI score)• Type-D personality test	

- Exclusions: pregnancy, acute psychiatric disorder, aphasia and/or disability, varicectomy, acute surgery
- *Statistical analysis:* multivariate regression model

Conclusion

Our data suggests that psychosocial factors, such as depression and affective disorders, although previously often ignored during the preoperative risk stratification, could indeed influence patient outcome and frequency of postoperative major complications.

References

Amrock LG, Deiner S. The Implication of Frailty on Preoperative Risk Assessment. Current opinion in anaesthesiology. 2014;27(3):330-335
Sepehri A, Beggs T. The impact of frailty on outcomes after cardiac surgery: a systematic review. J Thorac Cardiovasc Surg. 2014 Dec;148(6):3110-7.

Results

- Mean length of hospital stay: 9.1±6.5 days, no in-hospital mortality
- Risk factors for postoperative peripheral circulatory failure
 - higher score on the Geriatric Depression Scale
 - higher score on the Beck Depression Inventory
 - higher score on the Type D personality assessment
 - higher score on the Trait Anxiety Inventory
 - struggling with a poor financial situation

The results were corrected for age and previous vascular-POSSUM scores

- Higher score on the Beck Depression Inventory influenced
 - length of the ICU stay
- Higher score on the State Anxiety Inventory influenced
 - duration of mechanical ventilation

- We identified preexisting COPD as an independent risk factor for cumulative complications

Logistic model				
OUTPUT	INPUT	P	95% CI	OR
Cum. complications	COPD	<0.050	1.37-7.35	3.176
	Male gender	<0.050	0.033-0.88	0.172
	BMI	<0.050	0.669-0.985	0.812
	Coron. art. disease	<0.050	1.240-32.690	6.367
Postoperative peripheral circulatory failure	Financial struggles	<0.050	1.043-37.060	8.486
	GDS score	<0.005	1.128-1.1882	1.457
	Type D score	<0.050	1.030-1.399	1.200
	BDI score	<0.050	1.010-1.249	1.127
	TAI score	<0.050	1.012-1.192	1.099

Linear model			
OUTPUT	INPUT	P	B
Duration of hospital stay	Smoking (years total)	<0.200	0.042
	Smoking (cig. each day)	<0.200	0.087
	COPD	<0.200	1.989
Duration of ICU stay	BDI score	<0.200	0.400
Duration on mechanical ventilation	Smoking (years total)	<0.200	0.106
	SAI score	<0.200	0.210
	Sleeping problems	<0.200	5.995