

Supplemental Online Content

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eTable. The Estimated Associations for Prognostic Factors of Post-Operative Delirium From Multivariable Multilevel Mixed-Effects Logistic Regression With MICE Imputation From Sensitivity Analysis Excluding High Risk of Bias Study

eFigure. Risk of Bias Assessments Among the Included Studies Using QUIPS Tool

eReferences

This supplemental material has been provided by the authors to give readers additional information about their work.

eTable: The estimated associations for prognostic factors of post-operative delirium from multivariable multilevel mixed-effects logistic regression with MICE imputation from sensitivity analysis excluding high risk of bias study

Variable (*)	Adjusted with MICE	
	OR (95% CI)	P value
Procedure/surgery		
Orthopedic surgery	1	
Abdominal surgery	1.06 (0.67,1.69)	0.802
Vascular surgery	0.71 (0.44,1.15)	0.168
Laparoscopic surgery	0.64 (0.32,1.26)	0.197
Thoracic surgery	4.26 (1.10,16.53)	0.036
Obstetrics & gynecology surgery	0.65 (0.28,1.53)	0.324
Liver surgery	1.32 (0.65,2.70)	0.443
Other elective surgeries	0.67 (0.40,1.13)	0.131
ASA status		
I	1	
II	1.09 (0.65,1.82)	0.748
III	1.77 (1.04,3.00)	0.035
IV	2.44 (1.42,4.20)	0.001
Operation time (hour)	1.11 (1.05,1.18)	0.001
Sex		
Female	1	
Male	1.26 (1.07,1.49)	0.006
Age		
65 or younger	1	
65-85 years	2.62 (2.12,3.24)	0.000
> 85 years	6.13 (4.56,8.23)	0.000
BMI		
Normal (18.5-25)	1	
Underweight (< 18.5)	2.20 (1.60,3.05)	0.000
Pre-obese (25-30)	0.91 (0.75,1.09)	0.300
Obese class I (30-35)	0.81 (0.62,1.07)	0.140
Obese class II (>35)	0.74 (0.50,1.08)	0.117
Education		

Less than diploma[<12 years]	1	
Diploma [12 years]	0.71 (0.51,0.99)	0.043
College degree or more [>12years]	0.45 (0.28,0.72)	0.001
Smoking		
Non-smoker	1	
Ex-smoker	0.87 (0.63,1.20)	0.402
Smoker	1.32 (1.04,1.66)	0.022
Institutionalized		
No	1	
Yes	1.55 (1.07,2.24)	0.020
History of delirium		
No	1	
Yes	3.91 (2.70,5.67)	0.000
Preoperative cognitive impairment		
No	1	
Yes	3.99 (2.94,5.43)	0.000
Pre-op CRP serum level		
< 1 mg/dL	1	
1-5 mg/dL	1.73 (1.29,2.33)	0.000
5-10 mg/dL	2.34 (1.57,3.47)	0.000
> 10 mg/dL	3.53 (2.43,5.12)	0.000
# of preoperative comorbidities		
None	1	
1	1.31 (0.99,1.73)	0.061
2	1.34 (0.99,1.81)	0.056
3	1.57 (1.12,2.20)	0.009
4 or more	1.83 (1.24,2.70)	0.002
Polypharmacy (preoperative)		
< 5 medications	1	
5 or more medications	1.84 (1.47,2.30)	0.000
Charlson comorbidity index (not adjusted for age)	1.64 (1.03,2.63)	0.038

* Sample size for the unadjusted model without imputation. ASA: American Society of Anaesthesiologists
MICE: multiple-variable imputation using chained equations. The final model is adjusted for delirium diagnostic tool (data not shown). We used a backward stepwise approach for multivariable regression to find a reduced model that best explained the data.

eFigure: Risk of bias assessments among the included studies using QUIPS tool

Study (reference)	Study Participation	Study Attrition	prognostic factors measurement	outcome measurement	study confounding	Overall
Vasilian et al ³⁵						
Andreozzi et al ³⁶						
McAlpine et al ³⁷						
Honda et al ³⁸						
Dworkin et al ³⁹						
Sato et al ⁴⁰						
Martinez et al ⁴¹						
Kim et al ⁴²						
Mosk et al ⁴³						
Mangnall et al ⁴⁴						
Van Grootven et al ⁴⁵						
Hight et al ⁴⁶						
Sampson et al ⁴⁷						
Dezube et al ⁴⁸						
Chuan et al ⁴⁹						
Watne et al ⁵⁰						
Visser et al ⁵¹						
Denhaerynck et al*						
Brattinga et al ⁵²						
Dhakharia et al ⁵³						
Zywił et al ⁵⁴						

*Unpublished study.

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