

Supplement 2: Risk factors for a bloody puncture during regional anesthesia procedures

Risk of bloody tap – all procedures	multivariate regression before matching		multivariate regression after matching	
	adjusted OR (95% CI)	P	adjusted OR (95% CI)	P
Antithrombotic therapy	1.16 (1.04-1.30)	0.011	1.18 (1.04-1.35)	0.013
Female sex	1.17 (1.05-1.30)	0.003	1.19 (1.04-1.35)	0.013
Age (yr)	1.00 (1.00-1.01)	0.616	1.00 (1.00-1.01)	0.062
BMI [kg/m ²]	1.01 (1.00-1.02)	0.008	1.02 (1.01-1.03)	<0.001
ASA 2	0.71 (0.60-0.85)	<0.001	0.62 (0.48-0.81)	<0.001
ASA 3	0.99 (0.83-1.19)	0.931	0.91 (0.70-1.20)	0.509
ASA ≥4	0.98 (0.67-1.45)	0.933	0.74 (0.45-1.23)	0.245
Renal insufficiency*	1.14 (1.01-1.30)	0.041	1.15 (0.98-1.35)	0.084
Neuraxial vs peripheral punctures	1.46 (1.29-1.66)	<0.001	1.21 (1.03-1.42)	0.018
Sedation or GA vs awake	2.65 (2.35-2.99)	<0.001	2.29 (1.97-2.65)	<0.001
Catheter vs single shot	0.62 (0.54-0.70)	<0.001	0.55 (0.47-0.64)	<0.001
No use of ultrasound	2.29 (1.92-2.73)	<0.001	2.23 (1.77-2.81)	<0.001
Multiple skin puncture	3.52 (3.15-3.94)	<0.001	3.23 (2.81-3.71)	<0.001
Year of surgery	0.97 (0.95-0.99)	<0.001	0.97 (0.94-0.99)	0.004
Risk of bloody tap – peripheral punctures				
Antithrombotic therapy	1.60 (1.33-1.93)	<0.001	1.48 (1.19-1.82)	<0.001
Female sex	0.99 (0.83-1.17)	0.890	1.06 (0.86-1.32)	0.583
Age (yr)	1.00 (1.00-1.01)	0.236	1.00 (1.00-1.01)	0.348
BMI [kg/m ²]	1.01 (0.99-1.02)	0.232	1.01 (1.00-1.03)	0.094
ASA 2	0.85 (0.65-1.11)	0.225	0.59 (0.40-0.86)	0.006
ASA 3	1.23 (0.95-1.60)	0.116	0.99 (0.66-1.48)	0.946
ASA ≥4	1.13 (0.61-2.13)	0.694	0.55 (0.22-1.38)	0.205
Renal insufficiency*	1.03 (0.83-1.28)	0.807	0.95 (0.73-1.24)	0.711
Sedation or GA vs awake	1.76 (1.42-2.20)	<0.001	1.87 (1.42-2.46)	<0.001
Catheter vs single shot	0.62 (0.52-0.74)	<0.001	0.62 (0.50-0.78)	<0.001
No use of ultrasound	2.15 (1.78-2.60)	<0.001	2.25 (1.76-2.88)	<0.001
Multiple skin puncture	6.32 (5.27-7.57)	<0.001	6.11 (4.89-7.63)	<0.001
Year of surgery	0.95 (0.92-0.98)	0.001	0.96 (0.92-1.00)	0.047
Risk of bloody tap – neuraxial punctures				
Antithrombotic therapy	0.95 (0.82-1.10)	0.523	1.00 (0.85-1.18)	0.994
Female sex	1.27 (1.11-1.45)	0.001	1.21 (1.02-1.43)	0.030
Age (yr)	1.00 (1.00-1.00)	0.807	1.00 (1.00-1.01)	0.243
BMI [kg/m ²]	1.01 (1.00-1.02)	0.023	1.02 (1.00-1.03)	0.013
ASA 2	0.68 (0.53-0.86)	0.001	0.72 (0.49-1.05)	0.089
ASA 3	0.92 (0.73-1.17)	0.501	1.00 (0.68-1.47)	0.988
ASA ≥4	0.95 (0.58-1.54)	0.827	0.92 (0.48-1.78)	0.815
Renal insufficiency*	1.18 (1.01-1.39)	0.039	1.22 (1.00-1.50)	0.049
Sedation or GA vs awake	2.90 (2.52-3.35)	<0.001	2.41 (2.03-2.87)	<0.001
Catheter vs single shot	0.66 (0.56-0.79)	<0.001	0.56 (0.44-0.71)	<0.001
No use of ultrasound	1.55 (0.93-2.56)	0.090	1.27 (0.62-2.58)	0.516
Multiple skin puncture	2.69 (2.34-3.08)	<0.001	2.48 (2.09-2.94)	<0.001
Year of surgery	0.98 (0.96-1.00)	0.116	0.97 (0.95-1.00)	0.059

Supplement 2. OR=Odds Ratio, adjusted for antithrombotic therapy, sex, age, BMI, ASA, renal insufficiency, puncture site, state of consciousness during block implementation, catheter or single shot, use of ultrasound, multiple skin puncture, and year of surgery. CI= Confidence interval. ASA=American Society of Anesthesiologists (Physical Status Classification System). GA=General anesthesia. *dialysis or CKD EPI < 60ml/min/1.73m². Propensity score matching considered all potential confounding variables.