Supplemental methods

ORBIT bleeding score[1]

- Older than 74 (1),

- Reduced hemoglobin/history of anemia *[abnormal hemoglobin (<13 mg/dL for males and <12 mg/dL for females) or hematocrit (<40% for males and <36% for females)]* (2),

- Bleeding history (2),

- Insufficient kidney function *(<60 ml/min/1.73 m^2)* (1),

- Treatment with antiplatelet (1).

HEMORR$_2$HAGES score[2]

- Hepatic or renal disease *(creatinine >2.5 mg/dL = 221 umol/l and patients with end-stage liver disease or cirrhosis)* (1),

- Ethanol abuse (1),

- Malignancy (1),

- Older *(age > 75 years)* (1),

- Reduced platelet count or function *(aspirin use, any thrombocytopenia or blood dyscrasia, like hemophilia)* (1),

- Rebleeding risk *(history of past bleeding)* (2),

- Hypertension *(uncontrolled)* (1),

- Anemia *(hemoglobin <13 g/dL for men; <12 g/dL for women)* (1),

- Genetic factors *(CYP 2C9 single-nucleotide polymorphisms)* (1) (not included in the current study),

- Excessive fall risk *(including neuropsychiatric disease, dementia, Parkinson disease, or psychiatric disease)* (1),

- Stroke history (1).

HAS-BLED score[3]

- Hypertension *(uncontrolled, >160 mmHg systolic)* (1),

- Abnormal renal and liver function: *(renal disease - dialysis, transplant, creatinine >2.26 mg/dL or >200 μmol/L (1), liver disease - cirrhosis or bilirubin >2x normal with AST/ALT/AP >3x normal)* (1),

- Stroke history (1),

- Bleeding *(prior major bleeding or predisposition to bleeding - anemia)* (1),

- Labile INR *(unstable/high INRs, time in therapeutic range <60%)* (1)

- Elderly *(age >65years)* (1),

- Drugs or alcohol *(medication usage predisposing to bleeding: aspirin, clopidogrel, NSAIDs (1), alcohol use ≥8 drinks/week)* (1).

Modified HAS-BLED score[4]

- Hypertension *(≥140 mmHg)* (1),

- Abnormal renal and liver function (1),

- Stroke (1),

- Bleeding (1),

- Labile INR *(≥3.5 episode)* (1),

- Elderly *(≥65 years)* (1),

- Drugs *(use of antiplatelets)* (1).

References

1. O'Brien EC, Simon DN, Thomas LE, et al. The ORBIT bleeding score: a simple bedside score to assess bleeding risk in atrial fibrillation. *Eur Heart J*. 2015;36:3258-3264.

2. Gage BF, Yan Y, Milligan PE, et al. Clinical classification schemes for predicting hemorrhage: Results from the National Registry of Atrial Fibrillation (NRAF). *Am Heart J*. 2006;151:713-719.

3. Pisters R, Lane DA, Nieuwlaat R, de Vos CB, Crijns HJGM, Lip GYH. A Novel User-Friendly Score (HAS-BLED) To Assess 1-Year Risk of Major Bleeding in Patients With Atrial Fibrillation: The Euro Heart Survey. *Chest*. 2010;138:1093-1100.

4. Rutherford OCW, Jonasson C, Ghanima W, Holst R, Halvorsen S. New score for assessing bleeding risk in patients with atrial fibrillation treated with NOACs. *Open Hear*. 2018;5:e000931.

Supplementary Table I Patient characteristics according to laboratory parameters

Variables	ORBIT			HEMORR₂HAGES			HAS-BLED		Modified HAS-BLED	
	low risk (0-2) (n=73)	moderate risk (3) (n=14)	high risk (≥4) (n=13)	low risk (0-1) (n=58)	moderate risk (2-3) (n=35)	high risk (≥4) (n=7)	low risk (0-2) (n=67)	high risk (≥3) (n=33)	low risk (0-2) (n=42)	high risk (≥3) (n=58)
Fibrinogen (g/l)	3.1 (2.4-3.6)	2.6 (2.3-3.0)	2.6 (2.4-2.8)	3.1 (2.5-3.7)	2.6 (2.4-3.2)	2.6 (2.2-3.8)	2.9 (2.4-2.6)	2.8 (2.4-3.2)	2.7 (2.3-3.3)	3.0 (2.5-3.7)
PAI-1 (ng/ml)	16.5 (12.7-19.5)	13.9 (10.8-18.8)	14.4 (12.5-18.6)	14.2 (12.0-19.2)	17.9 (13.0-19.6)	18.6 (8.6-22.0)	14.8 (12.3-19.2)	17.9 (12.0-20.2)	16.2 (12.3-19.3)	15.2 (12.8-19.5)
α₂-antiplasmin (%)	108 (98-117)	114 (103-132)	99 (89-119)	108 (99-117)	111 (99-121)	95 (89-132)	108 (98-118)	111 (97-119)	109 (101-117)	108 (93-121)
Plasminogen (%)	107 (98-121)	119 (110-130)	103 (95-135)	112 (100-125)	104 (98-120)	130 (92-138)	110 (99-121)	104 (97-130)	111 (101-121)	105 (97-128)
tPA (ng/ml)	10.7 (2.8)	11.2 (2.8)	10.6 (2.1)	10.6 (2.9)	11.1 (2.3)	9.6 (1.9)	10.9 (2.9)	10.5 (2.2)	10.8 (3.2)	10.7 (2.3)
TAFI (ng/ml)	97 (86-108)	100 (90-103)	101 (90-115)	96 (85-106)	100 (89-116)	98 (89-102)	97 (85-1060	100 (89-115)	97 (85-109)	100 (89-106)
VWF (%)	193 (163-224)	204 (157-225)	201 (153-227)	191 (152-220)	213 (185-234)	153 (145-248)	198 (163-222)	199 (153-236)	210 (165-222)	197 (155-226)
ETP (nM x min)	1478 (129)	1459 (143)	1402 (112)	1478 (125)	1445 (137)	1469 (142)	1468 (128)	1460 (136)	1467 (126)	1465 (134)
Creatinine (umol/l)	82 (73-89)	84 (74-93)	102 (94-113)*	84 (74-93)	82 (72-99)	110 (91-119)*	83 (74-93)	88 (74-100)	82 (74-94)	87 (74-100)

NT-proBNP (pg/ml)	989 (444-1396)	568 (292-995)	349 (178-748)	795 (420-1356)	634 (349-1166)	748 (242-1432)	805 (420-1396)	634 (292-1166)	796 (411-1280)	748 (349-1432)

*P<0.05 vs low risk. Values are n (%), mean (standard deviation), and/or median and interquartile range.

For abbreviations see methods.