

P3849

Baseline profile of patients treated for acute venous thromboembolism in routine clinical practice according to age and renal function in the RE-COVERY DVT/PE global cohort study

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On behalf of The RE-COVERY DVT/PE investigators

Funding Acknowledgement: Funded by Boehringer Ingelheim

Background: Observational studies provide the opportunity to evaluate routine practice without the selection and treatment criteria imposed in randomized clinical trials (RCTs).

Purpose: Using data from the RE-COVERY DVT/PE global observational study (enrolment January 2016 to May 2017), we describe the baseline profile of patients treated for acute venous thromboembolism (VTE) in routine clinical practice according to age and renal function.

Methods: Baseline patient characteristics, clinical features (comorbidities/medical history), and anticoagulant therapy were tabulated descriptively for the subgroups of age (<75, ≥75 years) and creatinine clearance (<30, 30 to <50 [moderate impairment], 50 to <80 [mild impairment], ≥80 mL/min). Anticoagulant therapy at baseline and at hospital discharge or 14 days after diagnosis (whichever was later) was recorded.

Results: In this observational study of 6122 patients with acute deep vein thrombosis, the proportions of patients at baseline who were ≥75 years of age (25.2%) or who had mild to moderate renal impairment (38.1%)

were higher than in RCTs of non-vitamin K antagonist oral anticoagulants (NOACs) for acute VTE treatment (~12–13% elderly and ~26–29% with mild or moderate renal impairment) (from analyses of the RE-COVER trials; Hokusai-VTE and AMPLIFY). Older patients and those with renal impairment were more often female and were more likely to have comorbidities than the younger or normal renal function groups (Table). At the time of hospital discharge or 14 days after diagnosis, whichever was later, the majority was treated with NOACs (54%). Vitamin K antagonists were prescribed to approximately 1 in 5 patients. The use of NOACs decreased with worsening renal function, whereas the proportions treated with parenteral anticoagulation alone increased in the moderate renal impairment group compared with patients with normal renal function.

Conclusion: The population treated for acute VTE in routine clinical practice includes more elderly and renally impaired patients than represented in RCTs. These baseline data provide a snapshot of patient characteristics and patterns of anticoagulant therapy.

Table: Baseline characteristics and comorbidities according to age and renal function

	Age, yrs		CrCl, mL/min ^a			
	< 75 N = 4580	≥ 75 N = 1542	≥ 80 N = 2463	50 to < 80 N = 1150	30 to < 50 N = 457	< 30 N = 149
Age, yrs, mean (SD)	54.6 (14.1)	81.6 (5.1)	53.3 (15.0)	70.3 (11.1)	78.1 (10.0)	78.9 (14.1)
CrCl, mL/min, mean (SD)	107.0 (44.3)	57.1 (23.9)	122.7 (38.6)	65.5 (8.6)	41.2 (5.6)	21.9 (6.6)
Male, n (%)	2469 (53.9)	608 (39.4)	1376 (55.9)	543 (47.2)	147 (32.2)	45 (30.2)
Comorbidity, n (%) ^b						
None	1927 (42.1)	402 (26.1)	1007 (40.9)	277 (24.1)	85 (18.6)	27 (18.1)
Any	2653 (57.9)	1140 (73.9)	1456 (59.1)	873 (75.9)	372 (81.4)	122 (81.9)
Hypertension	1324 (28.9)	787 (51.0)	720 (29.2)	582 (50.6)	262 (57.3)	84 (56.4)
Diabetes mellitus	484 (10.6)	214 (13.9)	237 (9.6)	176 (15.3)	68 (14.9)	20 (13.4)
Active cancer ^c	476 (10.4)	198 (12.8)	221 (9.0)	168 (14.6)	65 (14.2)	15 (10.1)
Prior DVT	415 (9.1)	125 (8.1)	250 (10.2)	92 (8.0)	29 (6.3)	17 (11.4)
Trauma/surgery	325 (7.1)	123 (8.0)	211 (8.6)	89 (7.7)	36 (7.9)	10 (6.7)
CAD	181 (4.0)	140 (9.1)	104 (4.2)	96 (8.3)	46 (10.1)	18 (12.1)
Treatment, n (%)						
VKA	1052 (23.0)	314 (20.4)	525 (21.3)	276 (24.0)	102 (22.3)	61 (40.9)
Any NOAC	2462 (53.8)	843 (54.7)	1443 (58.6)	625 (54.3)	226 (49.5)	38 (22.5)
Parenteral only	786 (17.2)	306 (19.8)	336 (13.6)	173 (15.0)	99 (21.7)	34 (22.8)
Other	280 (6.1)	79 (5.1)	159 (6.5)	76 (6.6)	30 (6.6)	16 (10.7)

^aPatients with CrCl missing (1903 patients) were not considered.

^bComorbidities and/or medical history present in ≥ 4% of patients overall are shown individually.

^cExcluding non-melanoma skin cancer.

CAD, coronary artery disease; CrCl, creatinine clearance; DVT, deep vein thrombosis; NOAC, non-VKA oral anticoagulant; PE, pulmonary embolism; SD, standard deviation; VKA, vitamin K antagonist.