pendent predictor for bleeding risk was the presence of a labile INR (standardized HR 7.0; 95% CI, 0.9, 53.3). K-M survival function for bleeding is shown.
Conclusions: In conclusion, patients with cancer and atrial fibrillation represent a high-risk population. VKA remains as the most widely used anticoagulant in this context despite high variations in the INR. A labile INR should trigger reconsidering VKA usage, as it is strongly associated with bleeding events.

P4624 | BEDSIDE
New onset dementia in incident atrial fibrillation. A large cohort study

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Background: Atrial fibrillation (AF) has been suggested as a risk factor for dementia. AF-related emboli might be a modifiable contributor to progressive cognitive decline.
Purpose: To estimate the occurrence of new onset cognitive impairment in a population with incident non-valvular AF, and to explore the potential modifying role of oral anticoagulation.
Methods: We performed a cohort study of 11,343 patients (mean age 67.9±11.2 years, 60.4% male) with incident non-valvular AF and 38,256 age- and gender-matched controls without AF identified from all patients at risk for a first diagnosis of dementia in the UK Clinical Practice Research Datalink (CPRD) (linked to hospital discharges) between 2008 and 2014. A diagnosis of dementia was defined from Read medical codes and ICD-10 codes. Dementia cases were required to have no diagnosis of Creutzfeld-Jakob, Huntington's, Parkinson's or Pick's disease in the 182 days after the dementia diagnosis. Hazard ratios (HR) for dementia diagnosis were estimated and adjusted for BMI, smoking, socioeconomic status, CHA2DS2-VASc risk score and components of the Charlson comorbidity index.
Results: Mean follow-up was 20.3±0.1 months. During 83,427 person-years of follow-up, there were 513 cases of newly diagnosed dementia (AF 1.6% vs. controls 0.9%). Table 1 provides the HR for new-onset dementia in incident AF patients (both for the subset treated with oral anticoagulants as well as those without anticoagulation) versus those without AF. Exclusion of patients taking antidepressants before the dementia diagnosis did not influence these results.

Table 1. Hazard ratio (HR) and 95% confidence interval (CI) for new-onset dementia in incident atrial fibrillation (AF) patients

	Cases with dementia	Crude HR (95% CI)	Adjusted HR (95% CI)
no AF	332 (64.7)	1	1
AF	181 (35.3)	1.49 (1.24–1.80)	1.47 (1.22–1.77)
No AF	332 (64.7)	1	1
AF without anticoagulation	112 (21.8)	1.70 (1.37–2.11)	1.63 (1.30–2.03)
AF with oral anticoagulation	69 (13.5)	1.25 (0.96–1.63)	1.27 (0.97–1.65)

Conclusion: Incident non-valvular AF increases the risk of developing dementia within a short timeframe. The use of anticoagulation appears to have a protective effect.

P4625 | BENCH
Association between pattern of atrial fibrillation and neurocognitive function in patients at low risk of stroke

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Growing evidence suggests that the rate of cognitive impairment and dementia is magnified in patients with AF, independently of clinical stroke. The strongest association is observed in patients <75 years. However, it remains unclear whether type of AF influences cognitive function.
Method: Patients with AF and a low risk of stroke randomized in the BRAIN-AF trial (NCT02387229) underwent global cognitive assessment at baseline using the MoCA score (range 0–30). A cut-off value <26 has a sensitivity of 80–100% and specificity of 50–76% for detecting mild cognitive impairment. A cut-off value <24 is less sensitive for this purpose (84%) but has greater specificity (81%). Inclusion criteria were: documented AF; CHADS2 score of 0, and age <62 years. Main exclusion criteria were: known dementia; major depression; need for anticoagulant or antiplatelet therapy and increased risk of bleeding.
Results: A total of 219 patients, mean age 52.9±7.3 years, 20% female were enrolled and had permanent (N=30, 13.7%), persistent (N=28, 12.8%), or paroxysmal (N=161, 73.2%) AF (Table). All subjects had depression and global cognitive function assessments. Multivariate analyses adjusted for age and education level. A higher proportion of patients with permanent and persistent AF had a MoCA score <26 (23.3% and 21.4%, respectively) compared to patients with paroxysmal AF (8.7%; p=0.0461). Similar results were obtained with a MoCA cut-off value<24 (13.3% versus 7.1% versus 1.9%, respectively, p=0.0115). There was a trend towards a lower mean MoCA score in patients with permanent versus paroxysmal AF (p=0.0515).

Patient characteristics

Type of AF	Permanent AF	Persistent AF	Paroxysmal AF
N (%)	30 (13.7)	28 (12.8)	161 (73.2)
Mean age	53.8±6.9	54.3±8.3	52.5%±7.1
Married or in couple (%)	90.0	71.4	76.4
Education level (low/middle/high) %	6.7/50.0/43.3	10.7/71.4/17.9	6.1/56.5/37.3
Sleep apnea (%)	3.5	28.7	17.4
Acohol consumption (none/mderate/high)	26.7/56.7/16.7	35.7/36.4/17.9	24.2/59.6/16.1
Prior AF ablation (%)	13.3	3.6	15.0
Physical activity (%)	60.0	67.8	57.4

Conclusions: In conclusion, in a young AF population at a very low risk of stroke risk (CHADS2 score of 0), cognitive function is modulated by pattern of AF, with a gradient of risk for cognitive impairment observed from paroxysmal to persistent to permanent AF.
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P4626 | BEDSIDE
Cognitive function correlates with CHA2DS2-VASc score in patients with atrial fibrillation: The Swiss atrial fibrillation cohort study

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Introduction: There is emerging evidence suggesting a link between atrial fibrillation (AF) and the development of dementia, but only little is known about cardiovascular predictors and their relation to functional cognitive decline in patients with AF. The Swiss AF Cohort Study (Swiss-AF) is designed to prospectively assess neurocognitive function in a large cohort of unselected AF patients.
Methods: Swiss-AF is a prospective ongoing multicenter observational cohort study with a target enrollment of 2'400 patients across 13 sites in Switzerland. All patients undergo clinical and standardized neurocognitive assessment including the Montreal Cognitive Assessment (MoCA) at baseline and repeatedly yearly thereafter.
Results: In this cross-sectional analysis, a total of 1'978 participants completed MoCA assessment at baseline. Abnormal MoCA scores (normal ≥26/30) were found in 46.4% (p<0.001) of the patients. Compared to normal MoCA score, patients with an abnormal MoCA score were older, had a higher median CHA2DS2-VASc score and received more frequently vitamin K antagonist (VKA) and antiplatelet therapy, but less frequently non-vitamin K antagonists (NOAC) for oral anticoagulation (OAC) as shown in the table.

Characteristics by MoCA score group

	All	MoCA ≥26	MoCA <26	p-value
n	1978	1061 (53.6)	917 (46.4)	
Age	73.2 (8.5)	71.5 (8.4)	75.1 (8.1)	<0.001
MoCA score	25.3 (±3.2)	27.6 (±1.3)	22.6 (±2.5)	<0.001
History of hypertension	1374 (69.5)	682 (64.3)	692 (75.5)	<0.001
History of stroke or TIA	396 (20.0)	188 (17.7)	208 (22.7)	0.007
CHA_2DS_2-VASc score	3.0 [2.0; 5.0]	3.0 [2.0; 4.0]	4.0 [3.0; 5.0]	<0.001
OAC	1777 (89.8)	950 (89.5)	827 (90.2)	0.689
VKA	819 (41.4)	402 (37.9)	417 (45.5)	0.001
NOAC	958 (48.4)	548 (51.6)	410 (44.7)	0.002
Antiplatelets	386 (19.5)	180 (17.0)	206 (22.5)	0.003

Conclusions: In this large cohort of unselected AF patients, nearly half of the participants had an abnormal MoCA score suggesting substantial cognitive impairment. Expectedly, age, history of hypertension and cerebrovascular events as well as a higher CHA2DS2-VASc score were associated with cognitive impairment. Interestingly, the prescription of OAC was similar, but the use of NOAC, VKA and antiplatelet therapy differed significantly between the groups. This challenges the question whether a higher risk of silent bleeding may have contributed to cognitive impairment.
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