Starting anticoagulation for atrial fibrillation in the emergency department safely

Atrial fibrillation (AF) is a common morbidity, which is increasing in prevalence.[1] AF predisposes patients to stroke while anticoagulation therapy reduces the stroke risk in this population. The proportion of patients with AF receiving oral anticoagulation is one of the pan-Canadian quality indicators set by the Canadian Cardiovascular Society.[2] Our review of local ED practice identified that only 17% of patients with AF eligible for anticoagulation were being prescribed an anticoagulant.[3] We implemented a simple ED pathway for initiating anticoagulation in patients with AF in four EDs. The pathway was available for emergency patients who had a diagnosis of AF or atrial flutter (new-onset or previously known) being discharged home. We determined the proportion of patients who were appropriately anticoagulated and 90-day clinical outcomes.

Rapid specialist follow-up, reliable communication with the family doctor and ease of patient education increase ED doctor comfort in prescribing anticoagulation for AF.[4] Using these principles, a multidisciplinary, multisite working group developed a one-page pathway to guide assessment of risks and indication for anticoagulation in emergency patients being discharged home with AF (called Safe Anticoagulation for Atrial Fibrillation in the Emergency (SAFE) pathway, figure 1). Based on the Canadian Association of Emergency Physicians guidelines,[5] the pathway used CHADS65 to determine eligibility for anticoagulation (patients with heart failure, hypertension, diabetes, prior stroke or age 65 years and over being eligible). The pathway outlined contraindications to starting a direct oral anticoagulant (DOAC), instructions on how to prescribe a DOAC, educational patient information and a family doctor letter. The pathway doubled as the clinic referral form and was refined with feedback from emergency doctors, clerical and pharmacy staff. The ED pharmacist called the patient within a week of discharge. The primary outcome was the proportion of CHADS65-positive patients with no contraindications to DOAC prescription who received anticoagulation. Patients were followed for 90 days by both medical record review and telephone call.

Between 20 June 2018 and 30 May 2020, 311 patients were managed using the SAFE pathway in four EDs (median age 69 years (IQR 61–78), 48% female, CHA_2DS_2-VASc 3 (IQR 1–4)). Eight of the 311 patients were already taking an anticoagulant medication leaving 303 patients assessed for anticoagulation initiation with the pathway (figure 2). Anticoagulation prescriptions were offered to 201/220 (91.4%; 95% CI 86.6 to 94.6) of the target population (CHADS65-positive patients with no contraindication to a DOAC). Four patients declined anticoagulation. We established the 90-day anticoagulation status of 281/303 study patients. In the target group, 161/199 (80.9%; 95% CI 74.6 to 86.0) were taking an anticoagulant at 90 days, 21 could not be reached. We confirmed through medical record review and telephone follow-up that 273 of 311 patients had been followed up by their family physician and/or cardiology or internal medicine clinic for anticoagulation review. Of these 273, 199 (72.9%) had seen another doctor within 30 days and 259 (94.5%) within 90 days. One patient was diagnosed with a stroke within 90 days, making a 90-day arterial embolism rate in the target group 1/220 (0.4%; 95% CI 0.1 to 2.5). This patient was offered but declined a prescription of anticoagulation. The adjudicated 90-day major bleed rate (International Society of Thrombosis and Haemostatis definition[6]) among CHADS65-positive patients with

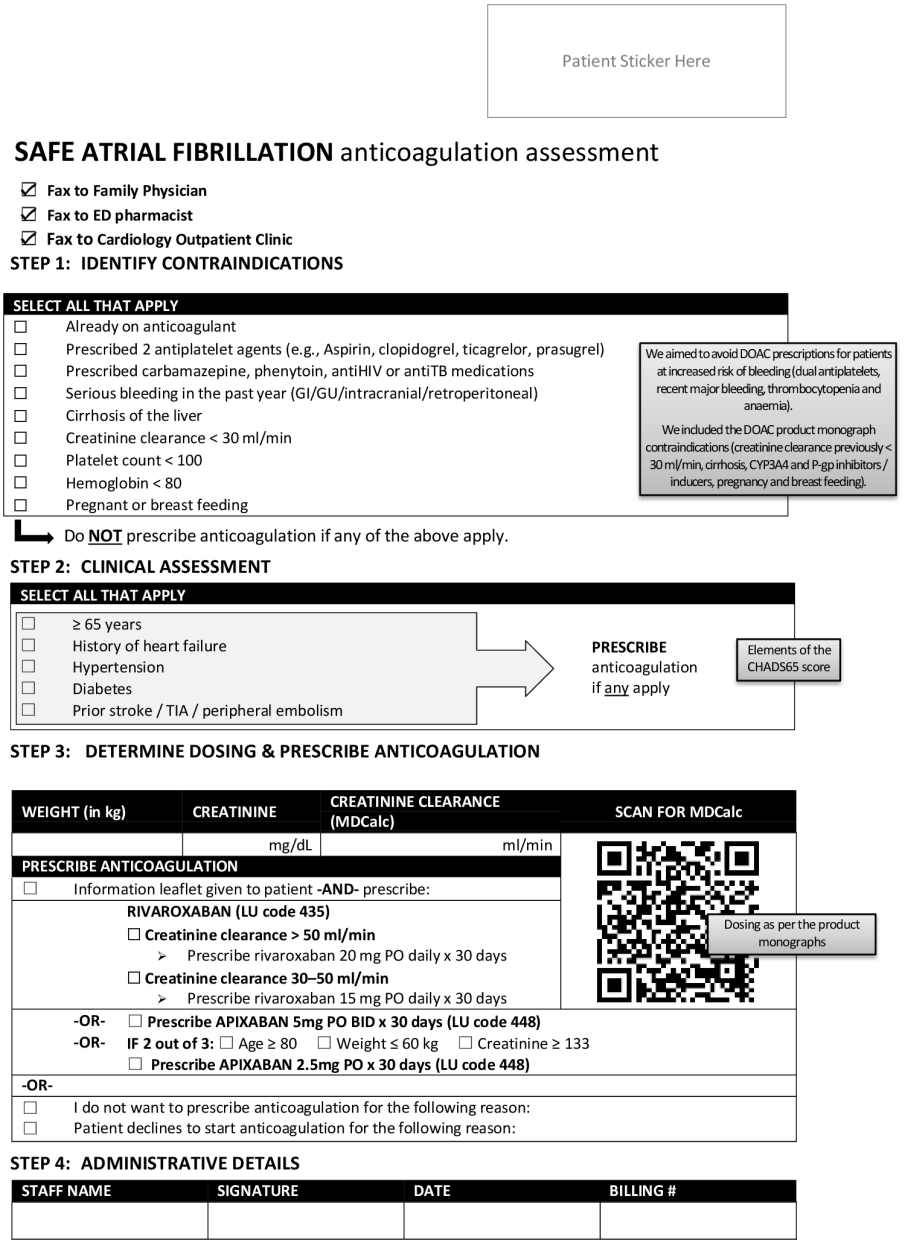

Figure 1 Safe Anticoagulation for Atrial Fibrillation in the Emergency pathway. DOAC, direct oral anticoagulant; GI, gastrointestinal; GU, genitourinary; TIA, transient ischaemic attack.

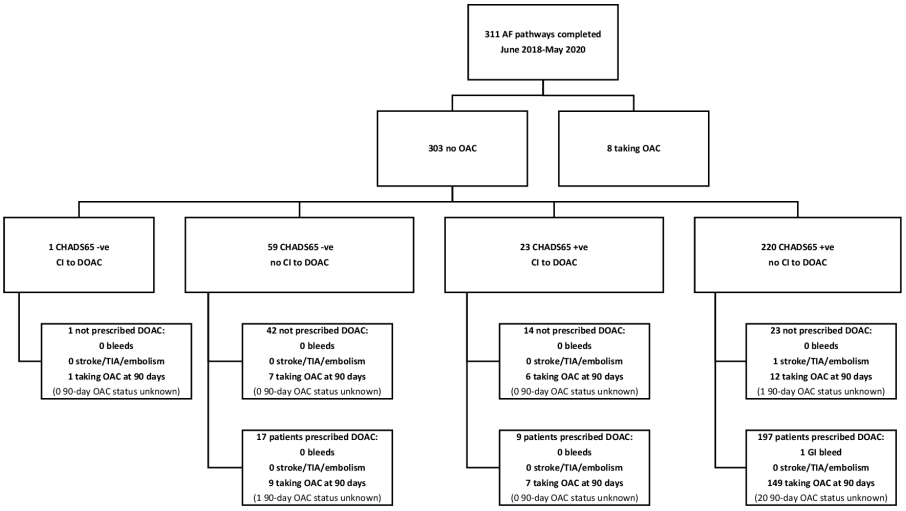

Figure 2 Flow chart describing patient management of clinical outcomes. AF, atrial fibrillation; DOAC, direct oral anticoagulant; GI, gastrointestinal; OAC, oral anticoagulant; TIA, transient ischaemic attack.

no contraindication to a DOAC was 1/220 (0.4%; 95% CI 0.1 to 2.5). The 90-day major bleed rate in the same group who started anticoagulation was 1/197 (0.5%; 95% CI 0.1 to 2.8). This patient was initiated on rivaroxaban and returned within 2 weeks with a large haemoglobin drop. Endoscopy and colonoscopy were negative. Anticoagulation was stopped.

This study suggests that our new pathway for initiating anticoagulation in ED patients discharged with a diagnosis of AF is safe and effective. The pathway was a low-tech intervention, which we believe could be implemented in other EDs. We do not have a comparison group, so we cannot compare these clinical outcomes with those with standard care or alternative pathways. In conclusion, our simple pathway facilitated anticoagulation initiation for ED patients with AF at risk of stroke, with a low adverse event rate at 90 days.

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