Table 4

Head-to-head comparison of available anticoagulant drugs

	Warfarin	Dabigatran	Rivaroxaban	Apixaban
Target	Vitamin K-dependent clotting factors (II, VII, IX, X)	Thrombin	Factor Xa	Factor Xa
Dose	Variable	- 150 mg bd - 110 mg bd (> 80 years old, on verapamil, HAS-BLED ≥ 3, CrCl 30-49 ml/min)	- 20 mg od - 15 mg od (HAS-BLED ≥ 3, CrCl 30-49 ml/min)	- 5 mg bid - 2.5 mg bid (≥ 80 years old, Cr ≥ 1.5 mg/dl, weight ≤ 60 kg)
Blood tests	Required	Not required	Not required	Not required
Antagonist	IV vitamin K (takes 8 hours to have effect) IV Beriplex/Octaplex (very expensive)	Not available	Not available	Not available
Drug interactions	Cimetidine, fibrates, propafenone, amiodarone, tramadol, NSAIDs, many classes of antibiotics, azole antifungals, carbamazepine, levothyroxine	Amiodarone, dronedarone, verapamil, ketoconazole, itraconazole, voriconazole, quinidine, clarithromycin, rifampicin, carbamazepine, phenytoin, St John's Wort	Quinidine, ketoconazole, itraconazole, ritonavir, clarithromycin, rifampicin, carbamazepine, phenytoin, St John's Wort	Diltiazem, ketoconazole, itraconazole, ritonavir, clarithromycin, rifampicin, carbamazepine, phenytoin, St John's Wort
Food interactions	Green leafy vegetables, liver, cranberry juice, grapefruit juice, garlic, asparagus, alcohol	- No interaction with food - Should be taken with a full glass of water while sitting upright - Take with food to minimise dyspepsia	To be taken with food	No interaction with food
Adverse reactions	Major bleeding, skin rashes, jaundice, fever, purple toe syndrome, warfarin necrosis, osteoporosis	Major bleeding, dyspepsia, nausea, upper abdominal pain, diarrhoea, gastritis, hypersensitivity reaction	Major bleeding, abdominal pain, dyspepsia, toothache, fatigue, back pain, hypersensitivity, angioedema, Stevens-Johnson syndrome, cholestasis/jaundice	Major bleeding, drug hypersensitivity, nausea, transaminitis, ocular haemorrhage, gingival bleeding
NICE indications		Nonvalvular AF with 1 or more risk factors - previous stroke or TIA - LVEF < 40% - NYHA class ≥ II - age 75 or older - age 65 or older with one of the following (diabetes, CAD, hypertension)	Nonvalvular AF with 1 or more risk factors - congestive heart failure - hypertension - age 75 or older - diabetes mellitus - prior stroke or TIA	Nonvalvular AF with 1 or more risk factors - prior stroke or TIA - age 75 or older - hypertension - diabetes, - symptomatic heart failure
When to choose	- Mechanical valves/valvular AF - Breast feeding - Active significant bleeding/bleeding diathesis - CrCl < 30 ml/min - Patient preference	- High risk of ischaemic stroke and low bleeding risk - HAS-BLED ≥ 3 (110 mg bid) - Patient preference	- Renal impairment - GI upset/disorders - CAD/previous MI or high risk - Previous stroke - Single dose - Patient preference	- Previous GI bleeding or high risk - GI upset/disorders - Previous stroke - HAS-BLED ≥ 3 - Patient preference
When to avoid	Unstable INR because of drug or food/alcohol interactions	- CrCl < 30 ml/min - Hepatic impairment or liver enzymes > 2 x upper limit of normal	- CrCl < 30 ml/min - Hepatic disease	- CrCl < 30 ml/min - Severe hepatic impairment